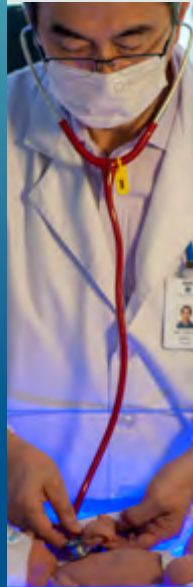


# Value Dossier 2024



RESULTS 2023



ALBERT EINSTEIN

SOCIEDADE BENEFICENTE ISRAELITA BRASILEIRA

# VALUE DOSSIER

RESULTS 2023



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# Opening message

**THIS DOSSIER** is an instrument that gives visibility to the winds of value-based medicine that we practice at Einstein for the benefit of patients and the healthcare system. Delivering value in healthcare is a complex equation. We perform it by measuring and monitoring quality and safety indicators of care, clinical outcomes and outcomes reported by patients, that is, the results that matter to them in terms of health and quality of life. It is one side of the scale. On the other side, there is intelligent management of the use of resources, always seeking efficiency and relevance of care, without waste and unnecessary procedures that increase costs.

Disclosing our indicators, including comparisons with national and international benchmarks, is an important practice in transparency, providing patients, doctors and other interested parties with a framework of essential information when it comes to healthcare. It is also a way to inspire other organizations to disclose their indicators, as it has been happening since we published our first dossier.

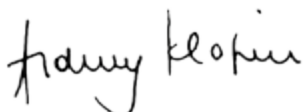
In addition to addressing value-enhancing activities, such as patient and clinical staff relationships, teaching, research, quality and safety programs, in this edition we have expanded the set of indicators to include six more medical specialties. There are now 16 in total. We have also included some exemplary cases of how to deliver value in healthcare.

Browsing through our dossier is seeing the winds that inflate Einstein's sails towards the purpose of delivering healthy lives to more human beings, promoting health equity and the sustainability of the system.

**Sidney Klajner**

**“WHAT MAKES THE BOAT MOVE FORWARD IS NOT THE FULL SAIL, BUT THE UNSEEN WIND”.**

(Plato)



# Einstein value delivery pillars



**IN VALUE-BASED HEALTH CARE**, service provision is guided using highly coordinated multidisciplinary teams to ensure people's health and improve the management of chronic conditions. This model – known as VBHC, for its acronym in English – aims to achieve better clinical outcomes, reduce hospitalizations and avoidable complications, as well as providing a positive experience and better quality of life for patients. Under the leadership of a physician manager, medical specialists collaborate with multidisciplinary teams to monitor key indicators and develop action plans aimed at continuous improvements, ensuring safety and quality of care. To guide the work of the medical specialties at Einstein in their efforts to add maximum value to their services, we have established four fundamental pillars of action:

#### **APPROPRIATE CARE**

Represents the attention to the frequency and speed with which patients receive the recommended treatment according to the hospital's medical guidelines. These are efforts that ensure the right treatment at the right time. This pillar focuses on actions such as process measures and indicators that express the relevance of care.

#### **COSTS & COMPLICATIONS**

When patients are admitted to hospitals for treatment of medical problems, there is a risk of developing complications or serious events that can prolong their stay, cause readmissions or reoperations, bring additional costs and worsen health results. These are events that can often be avoided if hospitals follow best treatment practices. In addition to monitoring critical resources, related to increased costs in health care, such as the average length of stay.

#### **PATIENT-REPORTED OUTCOMES MEASURES (PROMS)**

This pillar guides the analysis of treatment outcomes for a specific medical condition. A patient-reported outcome is a measurable change in symptoms, general health, functional capacity, quality of life, or survival that occurs because of medical treatment. We use validated questionnaires to measure these outcomes, which are administered to patients during hospital treatment and after discharge. These indicators allow

us to understand how patients progress after receiving medical treatment, which is essential to providing high-quality care.

#### **PATIENT EXPERIENCE & SATISFACTION**

While medical decisions are fundamental to positive clinical outcomes, it is nearly impossible to achieve the quality standards required for the success of the Value-Based Healthcare approach without the active involvement of the patient. Studies show that a good patient experience is correlated with improvements in their health condition, treatment safety, reduced hospital readmission rates, favorable results and greater loyalty. To achieve this, it is essential that care is focused on the patient and their family, placing them at the center of the process. This principle involves measures to assess patient satisfaction with the hospital treatment, which consider their perception of the care received, the interaction with healthcare professionals and the quality of services provided during the hospital stay.

**Next, we will explore the indicators associated with each of these pillars for the specialties or strategic services provided at Einstein.**

# Quality and Safety



**EINSTEIN'S MISSION** is to offer excellence in healthcare, knowledge and social responsibility, highlighting the contribution of the Jewish community to Brazilian society. Therefore, processes of continuous improvement in quality and safety of care are essential, in accordance with the Quintuple Aim concept that we apply in our services. Following national and international standards, our care is based on protocols with the best scientific evidence, aiming for the best results for patients.

With 22 accreditations and certifications, our healthcare system is based on quality. In 1999, Einstein was the first hospital outside the US to be accredited by the Joint Commission International. Recently, in 2022, we achieved Magnet nursing certification – the first certification in Latin America. And in 2023, we ranked 28th in the world and 1st in Latin America in the annual World's Best Hospitals ranking by Newsweek magazine. Our safety performance is monitored through indicators that aim to continuously improve processes and services, with the execution of action plans and the establishment of goals. We pursue the concept of a High Reliability Organization, prioritizing the elimination of harm to patients. Our safety indicators are collected in the shortest possible time and disclosed monthly to strategic committees. Leaders share results and adopt continuous improvement actions to reduce adverse events and risks in the provision of healthcare. We use methods such as

Root Cause Analysis (RCA), risk mapping, and Improvement Model (IHI) projects.

**In 2023, our projects positively impacted 460 lives and reduced healthcare costs by R\$6 million.**

Eliminating patient harm is our top priority. In our quest to move toward zero harm, we have been implementing innovative strategies that are driving our journey toward high reliability. The following charts illustrate our progress in reducing adverse events, and reflect the effectiveness of our learning system, our resilience, and our commitment to continuous improvement.

In 2023, we celebrate a decade of safety culture research, with results that reflect the success of a resilient and proactive organizational culture. This culture is characterized by transparency, continuous learning from risks and failures, committed leadership, appreciation for collective work and the implementation of robust continuous improvement processes.

These parameters are objectively evaluated in areas of action defined by the Agency for Healthcare Research and Quality. For the first time in ten years, 50% of the areas (5 areas) were considered strong, that is, with more than 75% positive responses, and none were considered weak.

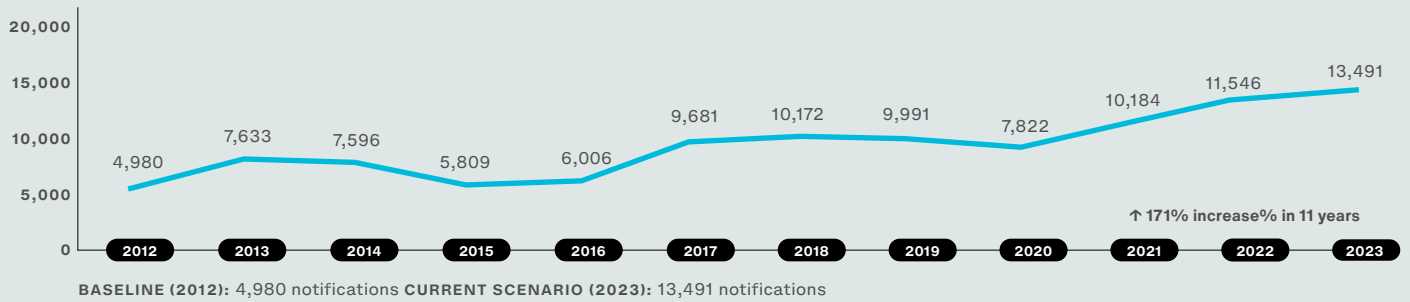
And six areas exceeded the average score for American hospitals (Table 1).



# Quality and Safety

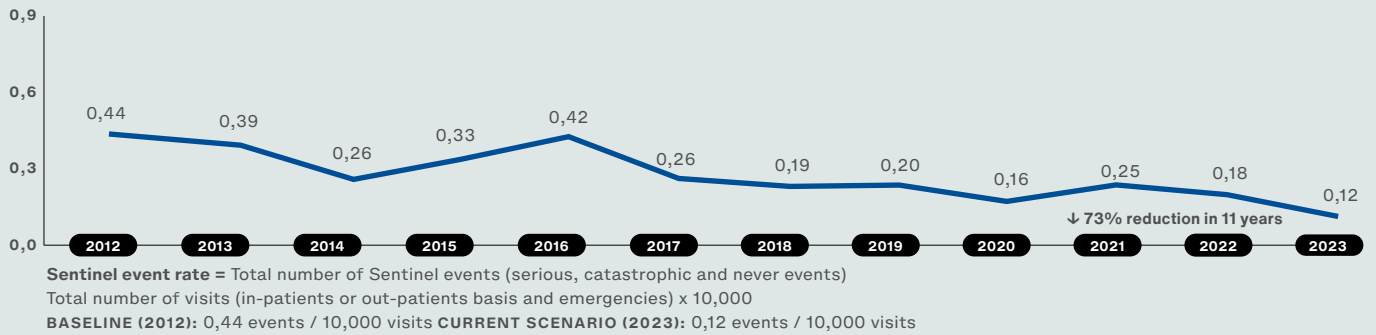
## Notification of events

The increase in the number of notifications reflects the institution maturity and the reliability of its indicators



## Sentinel event rate

The reduction of this indicator increasingly reveals safety in Einstein's healthcare

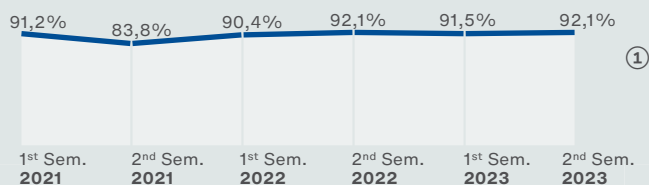


## Table 1. Safety Culture Survey Results

DOMAIN	● STRONG	● NEUTRAL	● WEAK	2013	2015	2017	2019	2021	2023	REF.
Team Work		●		63,4	60,6	63,3	65	80,3	75,7	82
Supervisor, Manager or Leader support for patient safety		●		74,9	68,3	70,1	73	79,3	83,6	80
Organizational Learning – Continuous Improvement	●			78,5	71,6	73,2	75	86,3	84,9	70
Senior Leadership Support for Patient Safety	●			79,2	70,5	72	74,2	82,1	83,2	64
Communication on errors		●		62,2	57,1	57,5	63,2	76,2	74,6	73
Reporting Patient Safety Events		●		65,1	61,1	62,9	70	78,8	79,8	74
Open Communication			●	52,6	47,9	48,9	52,2	59,3	70	76
Staff and Pace of Work			●	43,9	38,8	40	39,6	45,6	50,6	51
Information Flow			●	48,8	41	40,9	45,6	53,2	66,5	63
Reaction Error			●	26,2	24,1	27,7	29,4	34,1	57,4	63

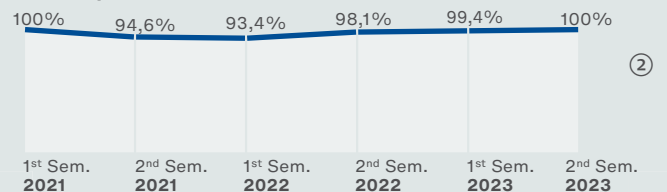
## Goals and Safety Indicators | 2021-2023

### Goal 1: Compliance rate in Patient Identification



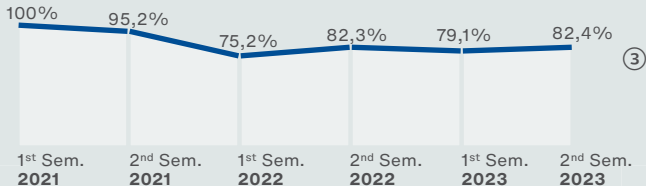
The higher, the better

### Goal 2: Compliance rate in the verbal and phone order process



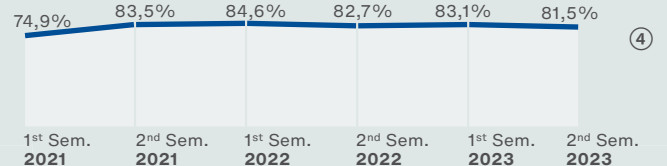
The higher, the better

**Goal 2: Compliance rate in the handover process**



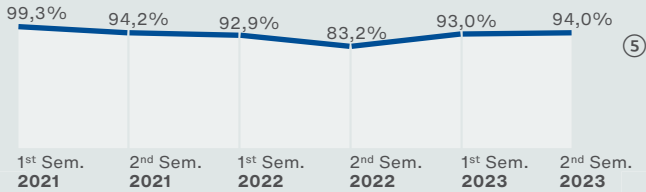
The higher, the better

**Goal 2: Compliance rate in critical result communication**



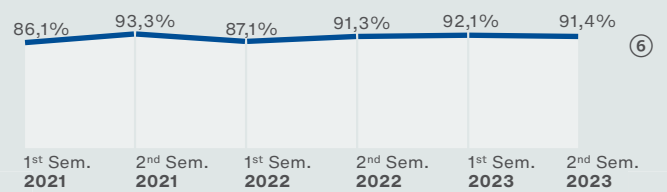
The higher, the better

**Goal 3: Compliance rate for high-alert medications and medications with similar sounds and spellings**



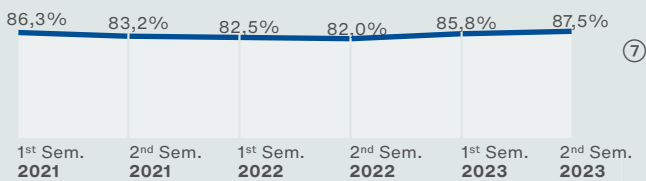
The higher, the better

**Goal 4: Adherence rate to the time-out checklist before anesthetic induction and before surgical incision**



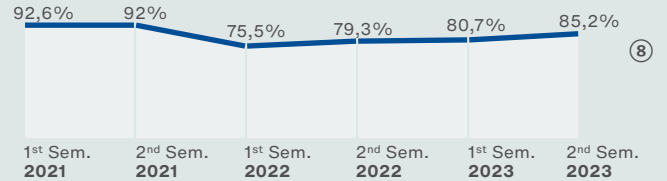
The higher, the better

**Goal 5: Hand hygiene adherence rate**



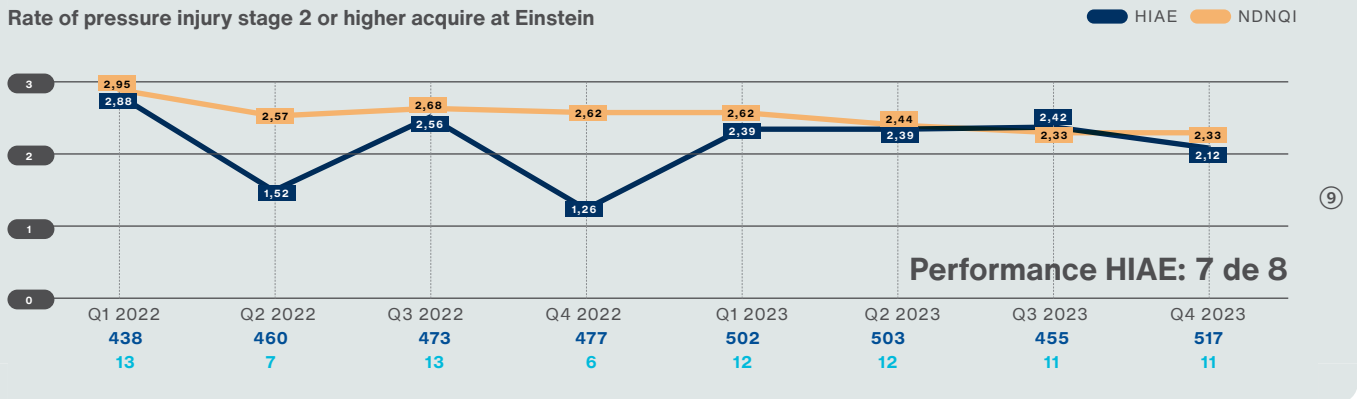
The higher, the better

**Goal 6: Fall prevention compliance rate**



The higher, the better

**Rate of pressure injury stage 2 or higher acquire at Einstein**

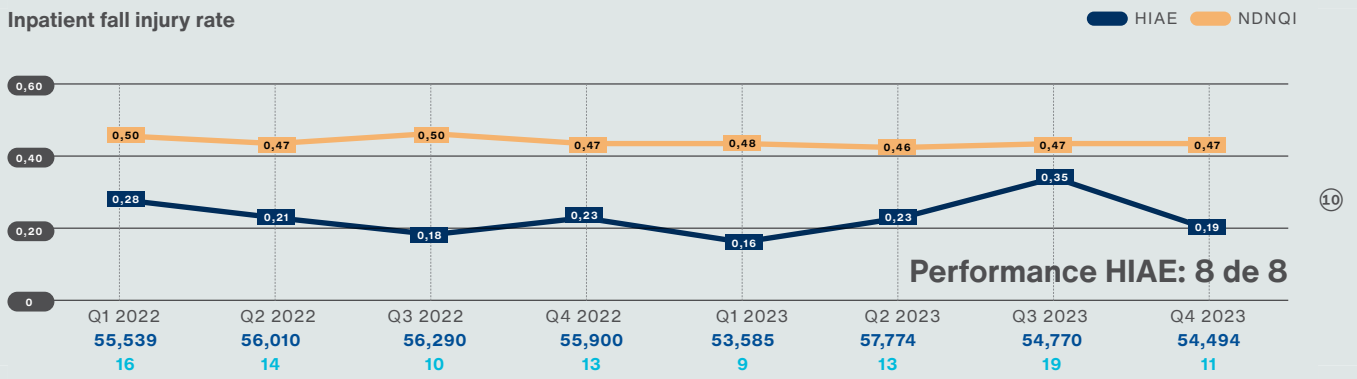


Total number of patients audited Patients with PI stage 2 or higher

The lower, the better

Reference: NDNQI - National Database of Nursing Quality Indicators

**Inpatient fall injury rate**



Total patients / day Total fall injury rate

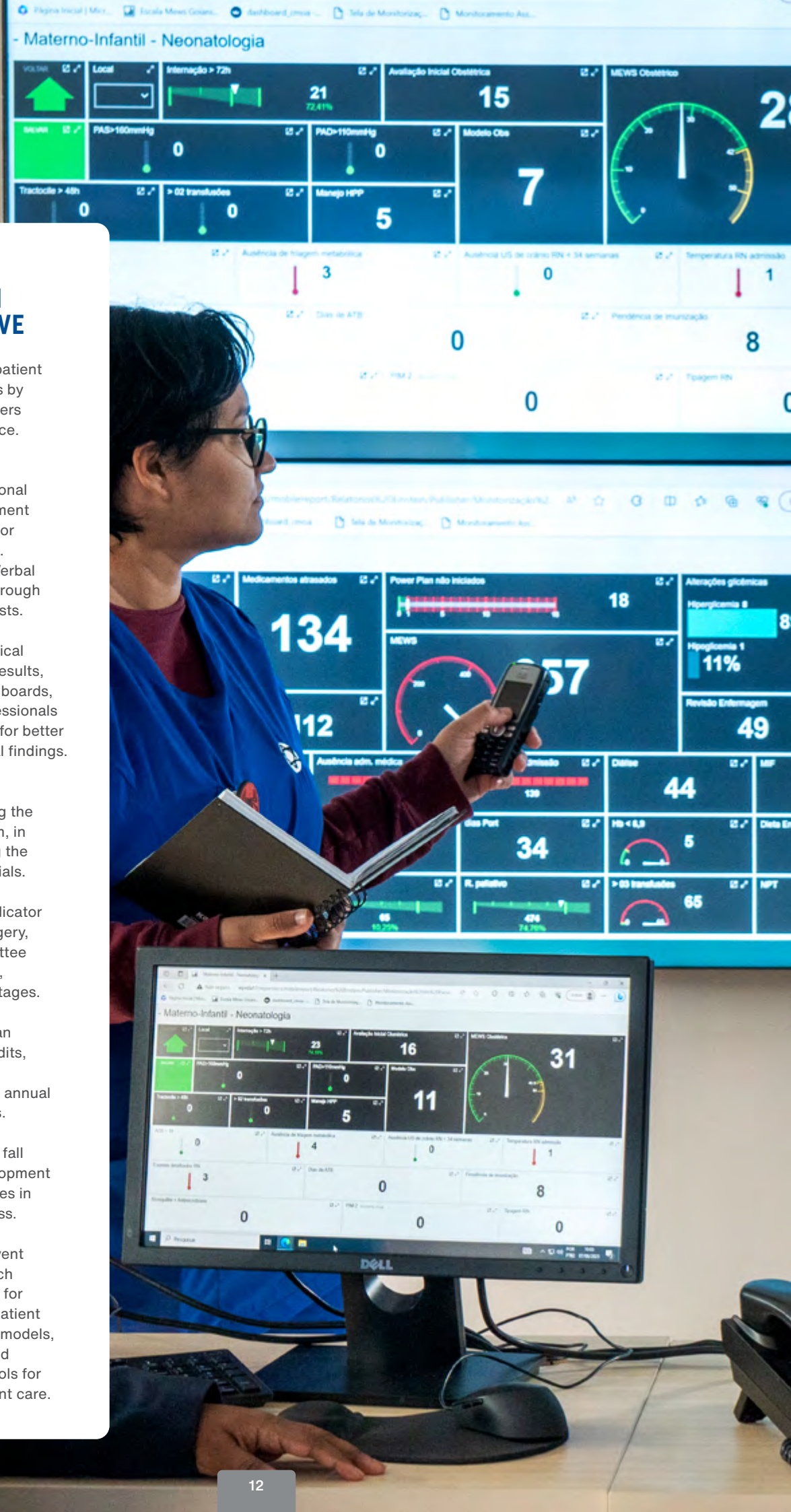
The lower, the better

Reference: NDNQI - National Database of Nursing Quality Indicators

## QUALITY AND SAFETY

### WHAT HAS BEEN DONE TO IMPROVE

- ▶ Improve the quality of patient identification wrist bands by purchasing specific printers and optimizing self-service.
- ▶ Improve the Handover process through educational actions and the development of a specific committee for effective communication. Improve the process of Verbal and Telephone Orders through alignment with pharmacists.
- ▶ Review and include critical laboratory and imaging results, with the creation of dashboards, training biomedical professionals and integrating systems for better communication of critical findings.
- ▶ Map the Medication Guardians and expanding the Safe Medication Program, in addition to standardizing the identification of insulin vials.
- ▶ Create a monitoring indicator for all stages of safe surgery, the Safe Surgery Committee and review of the sign-in, timeout and check-out stages.
- ▶ Strengthen the use of an app for hand hygiene audits, institutional training with immediate feedback and annual hand hygiene campaigns.
- ▶ Create safety triads for fall event analysis and development of monitoring technologies in the fall prevention process.
- ▶ Develop actions to prevent Pressure Injuries (PI), such as the use of technology for real-time monitoring of patient repositioning, predictive models, specialized education and integration of support tools for decision-making in patient care.



# Understand Quality and Safety indicators

## 1 Compliance rate in patient identification

Checks whether all patients are wearing an identification wrist band and whether Einstein professionals who assist them check the two identifiers standardized at the Institution, that is, full name and medical record number, which must be legible on the identification wrist band.

## 2 Compliance rate in the verbal and telephone order process

Indicates when the professional performs the current verbal and telephone order process, according to institutional guidelines. Verbal orders are only permitted in urgent and emergency situations. Telephone orders may only be given when the physician is unable to write the prescription in the medical record. It is good practice to record it, have it reread by the person who received it, and have it confirmed by the person who gave the order. This process is called Read-back.

## 3 Compliance rate in the shift handover process

Percentage of professionals who carry out the handover process between shifts and between areas, ensuring the communication of fundamental information in a standardized way using the I-PASS method and tool, according to institutional guidelines.

## 4 Compliance rate in communicating critical results

Checks whether the nursing professional describes the process of communicating critical results of laboratory tests, whether the radiologist describes the process of communicating panic results of imaging tests, whether the laboratory communicates the critical result within 1 (one) hour and whether the healthcare professional records the result and conduct in the medical record.

## 5 Compliance rate for high-alert medications and medications with similar sounds and spellings

Checks whether the professional describes which high-alert

medications are, their storage and proper identification, error prevention measures and barriers to avoid errors related to medications with similar sounds and spellings. It is checked on-site whether the insulin is properly identified, in the expiration date and in the medical record and whether there is evidence of double checking of high-alert medications.

## 6 Rate of adherence to the time-out checklist before anesthetic induction and before surgical incision

Indicates the percentage of adherence to the safe surgery checklist: time-out before anesthetic induction and before surgical incision. The safe surgery checklist is a procedure that aims to check essential items to ensure the safety of the surgical procedure and includes some fundamental steps: check-in or sign-in (patient admission to the place where the procedure will be performed), time-out before anesthetic induction, time-out before surgical incision and check-out or sign-out before the end of the procedure.

## 7 Hand hygiene adherence rate

Indicates the percentage of adherence to hand hygiene in the five moments defined by the World Health Organization (WHO).

## 8 Compliance rate in fall prevention

Checks the assessment of fall risk upon admission, risk reassessment, degree of risk, use of medical records identified with an orange tag, and record of the patient and family education process in the educational plan. When assessing patients at risk of falling, identification with the orange wrist band is checked and whether the patient knows how to refer to the reason for wearing it. In the interview with professionals, knowledge of universal care for fall prevention and the flow of non-adherence to fall prevention are verified. During on-site check, circulation areas are visually inspected for fall prevention measures and the sign on the bed door for high-risk patients is checked.

## 9 Rate of hospital-acquired pressure injury stage 2 or higher

A cross-sectional study is conducted on the number of patients who acquired pressure injury stage 2 or higher in a hospital unit, based on the number of patients audited on the day of the prevalence study. Pressure Injury (PI) is a lesion located on the skin and/or underlying tissue, usually over bony prominences, resulting from isolated pressure or pressure combined with friction and/or shear. Thus, pressure injury stage 2 or higher corresponds to patients with acquired PI stage 2, 3, 4, Unclassifiable, Deep Tissue Pressure Injury (DTPI) related or not to a device. Accuracy carried out by the Care Practice area corresponds to the double checking of the PI staging by the specialist in real time, as well as checking the unit of origin and correct entry of the information into the system. Data management, from its initial accuracy, insertion into the NDNQI platform and subsequent analysis to the release of the result is the responsibility of the Care Practice area.

## 10 Inpatient fall injury rate

The injury to patients resulting from the adverse event of falls is monitored in patients under the care of professionals at the institution, through inpatient and outpatient care. This is sent to the risk management team (quality and safety department), which carries out an initial assessment of the event and probable classification of the injury, to define the type of investigation that will be carried out (concise, comprehensive or independent). After this first phase, the data is forwarded to the Care Practices area, which is responsible for managing the nursing-sensitive indicators that make up the Magnet dashboard. The area then performs a second analysis of the data, considering the differences in the classification of harm in the areas involved in this process. Care Practice follows the recommendations of NDNQI and Risk Management follows the recommendations of RDC 36 and Chapter QPS of the 7th edition of the JCI manual.

# Infectology and Infection Control



**SINCE ITS FOUNDATION**, Einstein has made infection prevention a priority. The Hospital Infection Control Service (SCIH) and the Infection Prevention Program (PCI) have been active since 1986, ten years before the publication of Law 9,431/1997, which makes this type of infection control mandatory in hospitals in the country. Einstein is also a pioneer in developing special infection prevention programs for primary care.

The SCIH team has professionals trained in infection prevention to meet demands of all areas and patient profiles in the Einstein ecosystem. It applies the continuous improvement model, investing in digital transformation and the incorporation of new technologies. The service adopts strategies from the Institute for Healthcare Improvement (IHI) for continuous improvement of infection prevention standards, in addition to the Training Within Industry (TWI) methodology for training healthcare professionals involved in care.

Einstein also has excellent medical teams in the Clinical Infectology area, qualified for diagnosis, treatment and monitoring of patients with a wide range of infectious pathologies. These professionals have outstanding academic training, extensive experience in hospital support and the ability to quickly adapt the demands of epidemics and pandemics.

Both areas operate with direct support from Einstein's Laboratory of Excellence for rapid and accurate diagnosis of infectious diseases, using conventional, serological and molecular means, including advanced metagenomic techniques.

The hospital also has an Assertiveness Program in the Use of Antimicrobials, aimed at patient safety and preventing the emergence of resistant pathogens as well as a Group of Infections in Immunocompromised Patients specialized in the prevention, diagnosis, management, teaching and research into infections in patients with this profile.

VOLUME

**4,318**

Calls on the  
infectious diseases  
medical support team

REGISTERED PHYSICIANS

**3,735**

Consultations

**121**

Infectologists

TEACHING

**28**

Postgraduate  
students  
*lato sensu*

1 program

**18**

Students in the  
Annual  
Update Course  
on Antimicrobial  
Therapy

**1**

Student in  
medical training  
in infections in  
immunosuppressed  
patients

SCIENTIFIC PRODUCTION

**27**

Publications

★★★★★

23 in journals with  
impact factor > 1

# Infectious diseases and infection control

RESULTS 2023 ⊕ Better than reference ⊖ Equal to reference ⊖ Worse than reference

APPROPRIATE CARE COST & COMPLICATIONS SURVIVAL & PROMS PATIENT EXPERIENCE/SATISFACTION

Incidence rate of central venous catheter-associated bloodstream infections (per 1000 central venous catheter-days) – general

**0,41<sup>⊕</sup>**  
The lower, the better

①

REFERENCE 1,4

• Association of Private Hospitals (ANAHP) 2023 - Adult ICU

Incidence density rate of urinary tract infection associated with indwelling urinary catheter (per 1,000 days of urinary catheter or indwelling urinary catheter use) – general

**0,32<sup>⊕</sup>**  
The lower, the better

②

REFERENCE 0,71

• ANAHP 2023 - Adult ICU

Surgical site infection rate in clean surgery - general

**0,40<sup>⊕</sup>**  
The lower, the better

③

REFERENCE 0,41

• ANAHP 2023

Surgical site infection rate in video laparoscopic colectomy

**1,0%<sup>⊕</sup>**  
The lower, the better

④

REFERENCE 1,7

• ANAHP 2022

Incidence rate of methicillin/oxacillin-resistant Staphylococcus aureus (MRSA) bloodstream infection / 1000 patient-days

**0,0044<sup>⊕</sup>**  
The lower, the better

⑤

• Standardized Infection Ratio (SIR) \*  
SIR HIAE 0,0747 e SIR NHSN 0,904.

Hand hygiene adherence rate at the five moments of assistance

**86%<sup>⊖</sup>**  
The higher, the better

⑥

REFERENCE >95%

• Institute of Healthcare Improvement (IHI)

Adherence rate to discontinuation of surgical prophylaxis at the appropriate time

**93%<sup>⊕</sup>**  
The higher, the better

⑦

REFERENCE >90%

• Institutional goal

Adherence rate to discontinuation of antimicrobial therapy at the appropriate time

**94%<sup>⊕</sup>**  
The higher, the better

⑧

REFERENCE >90%

• Institutional goal

# Understand the Infectology indicators

APPROPRIATE CARE COST & COMPLICATIONS SURVIVAL & PROMS PATIENT EXPERIENCE/SATISFACTION

## 1 Incidence rate of central venous catheter-associated bloodstream infections (per 1000 central venous catheter/day)

Catheter-related bloodstream infection occurs when bacteria or other germs present at the insertion site reach the bloodstream, resulting in bacteremia, which, if not treated properly, can lead to sepsis. This indicator analyzes the incidence of bloodstream infection associated with the use of a central venous catheter in patients who used it for more than two calendar days and who presented signs and symptoms according to the defining criteria for this condition.

## 2 Incidence density rate of urinary tract infection associated with indwelling urinary catheter (per 1,000 days of urinary catheter or indwelling urinary catheter use)

Analysis of the Incidence of Urinary Tract Infection associated with the use of Indwelling Bladder Catheters in patients who used them for more than two calendar days and who presented signs and symptoms according to the defining criteria for this condition.

## 3 Surgical site infection rate in clean surgery – General This indicator expresses the frequency of patients who presented signs and symptoms according to the defining criteria of surgical site infection in surgeries classified as clean, that is, performed

on sterile or decontaminated tissues, in the absence of local infectious or inflammatory processes or gross technical failures. It is calculated by dividing the total number of SSI cases by the total number of clean surgeries.

## 4 Surgical site infection (SSI) rate in laparoscopic colectomy

Occurrence of episodes of surgical site infection, according to the defining criteria specifically in colectomy procedures performed laparoscopically. It is calculated by dividing the total number of cases of SSI in colon surgeries by the total number of surgeries of this type.

## 5 Incidence rate of bloodstream infection by MRSA Measures primary bloodstream infection associated or not with the use of a central venous catheter, caused specifically by oxacillin-resistant Staphylococcus aureus in patients hospitalized for more than two days. This is a microorganism with epidemiological importance. The index indicates the total number of infections caused by S. aureus per 1,000 patient-days. Standardized infection rate (SIR): The standardized infection ratio is the main measure currently used by the National Healthcare Safety Network (NHSN) for healthcare-associated infections. The NHSN is the National Healthcare Safety Network of the CDC (Centers for Disease Control and Prevention) - USA.

## 6 Hand hygiene adherence rate at the five moments of assistance

Indicates the percentage of adherence to hand hygiene at the five moments defined by the World Health Organization (WHO).

## 7 8 Adherence rate to discontinuation of antimicrobial therapy at the appropriate time

Reflects the proportion of antibiotic prescriptions discontinued within 10 days for eligible protocols. Antibiotic use saves lives, but excessive and unnecessary use can lead to bacterial resistance. Treatment periods of up to 10 days are usually sufficient for the treatment of most uncomplicated infections in patients requiring hospitalization.

### INFECTOLOGY

## WHAT HAS BEEN DONE TO IMPROVE

### Surgical site infection

- ▶ Review the main pillars of infection prevention in a broad and multidisciplinary way, within the improvement project called Surgery in Focus, including updating normoglycemia and normothermia protocols.
- ▶ Expand the protocol for research and decolonization of Staphylococcus aureus in patients undergoing certain types of procedures.
- ▶ Review the surgical antibiotic prophylaxis protocol, with discussion and guidance for different specialties in medical care groups.

### Urinary tract infection

- ▶ Supervise and monitor daily, through the specialist nurse, patients using indwelling urinary catheters, the permanence of the device and best practices in inserting and handling the catheter.
- ▶ Develop educational strategies to train nurses in prevention, use of ultrasound, in the 4 seasons program, in workshops and institutional trails.

### Bloodstream Infection

- ▶ Develop educational actions on catheter handling, process audits, visual management of processes in some units (bedside bundle).
- ▶ Engage patients in catheter care, partner with the iv-therapy team to discuss cases and review best practices within the iv-therapy committee.
- ▶ Train periodically through the 4 Seasons Program, in the admissions processes, in workshops and institutional trails.

# Cardiology



**THE EINSTEIN CARDIOLOGY PROGRAM** was established in 2003 to provide faster, more comprehensive and integrated care to patients. As a strategic specialty, the program aims to continually improve cardiac care by incorporating new technologies and promoting education, research and social responsibility. The management protocols for Acute Myocardial Infarction (AMI) and Heart Failure (HF) aim to optimize assistance, ensuring safety and quality, with continuous monitoring by a multidisciplinary team and the Health Care Assessment Center.

In 2023, we observed growth in Einstein Cardiology both in terms of volume of assistance and in terms of quality and social responsibility. In the area of care, the highlight was the 30% growth in percutaneous aortic valve implants (TAVI) in interventional cardiology. Regarding surgical procedures, there was an 8% increase, with a 72% increment in the total number of heart transplants between 2022

and 2023. The total of 31 transplants makes Einstein the second largest heart transplant center in Brazil.

In terms of social responsibility, the SUPRA Project stands out, a partnership between Einstein Cardiology, the Hospital Municipal de Aparecida de Goiânia (HMAP) and the Aparecida de Goiânia Municipal Health Department, for the prompt diagnosis and treatment of heart attacks. In this project, more than 11,000 ECGs were performed to diagnose and treat 70 patients with AMI in the first 5 months of the project, with 96% survival rate.

Also in this project, the first pre-hospital care for myocardial infarction in the state of Goiás was performed. In São Paulo, the partnership with the Municipal Health Department was strengthened with the performance of catheterizations and angioplasties in patients with AMI treated in Municipal Hospitals (SUS) that are part of the CROSS network.

## CARDIOLOGY

### Certifications and Recognition



International Centers of Excellence



RANKING  
NEWSWEEK 2024

CARDIOLOGY  
2<sup>nd</sup> in Latin America  
25<sup>th</sup> best in the world

CARDIAC SURGERY  
2<sup>nd</sup> in Latin America  
61<sup>st</sup> best in the world



# Cardiology

RESULTS 2023 ⊕ Better than reference ⊖ Equal to reference ⊖ Worse than reference

## VOLUME

42,237

Consultations

3,176

Procedures

INTERVENTIONAL 2,626  
CARDIAC SURGERY 550

## REGISTERED PHYSICIANS

726

CARDIOLOGISTS 630  
CARDIAC SURGEONS 96

## TEACHING

134

Postgraduate students'  
*lato sensu*

4 programs

14

Medical  
enhancement  
students

6 programs

3

Multidisciplinary  
enhancement  
students

2 programs

6

Medical  
residents

1 program

## SCIENTIFIC PRODUCTION

302

Publications

★★★★★  
63 in journals with  
impact factor > 1

## Heart failure

APPROPRIATE CARE COST & COMPLICATIONS SURVIVAL & PROMS PATIENT EXPERIENCE/SATISFACTION

Prescription rate of IECA / ARB  
at hospital discharge of HF patients

91%<sup>⊕</sup>

The higher, the better

REFERENCE >85%

• American Heart Association

30-Day Readmission rate of HF patients  
Population > or = 65 years.

12%<sup>⊕</sup>

The lower, the better

REFERENCE 21%

• Centers for Medicare & Medicaid Services  
\* For the population assisted, regardless of age, the rate is 8.7%

Average quality of life score for HF patients  
12 months after discharge (KCCQ-12)

90<sup>⊕</sup>

The higher, the better

REFERENCE >75

• Am Coll Cardiol 2020;76:2379-90

Percentage of patients who reported being satisfied or  
very satisfied with the treatment outcome 30 days after  
discharge

97%

The higher, the better

# Acute Myocardial Infarction (AMI)

APPROPRIATE CARE COST & COMPLICATIONS SURVIVAL & PROMS PATIENT EXPERIENCE/SATISFACTION

Overall performance in IAM assistance

**98%**<sup>+</sup>

The higher, the better

REFERENCE 95%

- National Cardiovascular Data Registry (NCDR®) | American College of Cardiology

5

Percentage of door-to-ECG time within 10 min in AMI

**68%**<sup>+</sup>

The higher, the better

REFERENCE 55%

- National Cardiovascular Data Registry (NCDR®) American College of Cardiology

6

Average door-to-ECG time.

**8 min**<sup>+</sup>

The shorter, the better

REFERENCE < 10 min

- American Heart Association

7

Percentage of door-to-balloon time within 60 minutes in primary angioplasties

**89%**<sup>+</sup>

The higher, the better

REFERENCE 85%

- American Heart Association

8

Median door-to-balloon time in AMI

**53 min**<sup>+</sup>

The shorter, the better

REFERENCE < 60 min

- Institutional Goal

9

30-Day Readmission rate of AMI patients Population > or = 65 years.

**12%**<sup>+</sup>

The lower, the better

REFERENCE 15%

- Centers for Medicare & Medicaid Services \*For the population served, regardless of age, the rate is 8.9%

10

Adjusted in-hospital survival rate for AMI

**95%**<sup>+</sup>

The higher, the better

REFERENCE 94%

- National Cardiovascular Data Registry (NCDR®) American College of Cardiology

11

30-Day Angina improvement rate for AMI patients measured by SAQ-7 (Customer Service)

**90%**

The higher, the better

REFERENCE Improvement was considered as ≥ 10 points on the SAQ-7 from baseline to 30 days after discharge

JAMA Cardiol. 2021 May 1;6(5):593-599.

12

30-Day Physical limitation improvement rate in AMI patients (SAQ-7)

**96%**

The higher, the better

REFERENCE Improvement was considered as ≥ 10 points on the SAQ-7 from baseline to 30 days after discharge

JAMA Cardiol. 2021 May 1;6(5):593-599.

12

30-Day Quality of life improvement rate for AMI patients (SAQ-7)

**97%**

The higher, the better

REFERENCE Improvement was considered as ≥ 10 points on the SAQ-7 from baseline to 30 days after discharge

JAMA Cardiol. 2021 May 1;6(5):593-599.

12

Average Net Promoter Score (NPS) over the last 3 years for patients admitted to AMI

**92**<sup>+</sup>

The higher, the better

REFERENCE > 75

- NPS: Excellent

15

Percentage of patients who reported being satisfied or very satisfied with the treatment outcome 30 days after discharge

**98%**

16



CARDIOLOGY

## WHAT HAS BEEN DONE TO IMPROVE

- ▶ Develop and implement a decision support tool for physicians in the management of patients with heart failure.
- ▶ Review, update and discuss all cardiology pathways (assistance flowcharts) in the cardiology medical care group.
- ▶ Audit all cases of acute myocardial infarction with ST elevation and hold a monthly meeting to discuss cases with all emergency care units.
- ▶ Start the accreditation process along with the *American College of Cardiology* with working groups on heart failure and chest pain/ acute coronary syndrome.
- ▶ Analyze and manage all cases of acute coronary syndrome.
- ▶ Analyze and manage all cases of Heart Failure.
- ▶ Update the electronic medical record tools to support the multidisciplinary team.
- ▶ Train the team with regular training and participation in national and international conferences.

# Understand the Cardiology indicators

APPROPRIATE CARE COST & COMPLICATIONS SURVIVAL & PROMS PATIENT EXPERIENCE/SATISFACTION

## Heart Failure

### 1 Prescription rate of ACEI/ARB at hospital discharge of patients with (HF)

Medications classified as Angiotensin-Converting Enzyme Inhibitors (ACEIs) and Angiotensin Receptor Blockers (ARBs) are used to improve the function of the heart muscle. The guidelines of the Brazilian, American and European Societies recommend these medications for the treatment of heart failure in patients who have moderate to significant impairment of the left ventricular ejection fraction (less than 40% on echocardiogram).

### 2 30-Day Readmission rate of HF patients

Percentage of patients hospitalized for heart failure who were readmitted within 30 days after discharge, for any unplanned reason, including obstetric and oncological procedures, such as chemotherapy.

### 3 Mean quality of life score for HF patients 12 months after discharge (KCCQ-12)

Quality of life indicator to measure the degree of physical and social limitations, frequency of symptoms in patients with heart failure, 12 months after hospital discharge. This measure is assessed using the Kansas City Questionnaire (KCCQ-12). Good to excellent quality of life is characterized by a score greater than 75 points, according to the American College of Cardiology. Circ Cardiovasc Qual Outcomes. 2015 Sep;8(5):469-76.

### 4 16 Satisfaction with the treatment outcome in AMI or HF patients admitted within 30 days

It is measured by the Health Care Assessment Center, through an interview after hospital discharge, which includes a question about how satisfied the patient is with the treatment received. Responses range from "very satisfied" to "very dissatisfied". In this Dossier, we report the percentage of "satisfied" and "very satisfied" responses.

## Acute Myocardial Infarction

### 5 General performance of acute myocardial infarction care (AMI)

Measure of the quality of care for patients with acute myocardial infarction, from admission up to hospital discharge. It is used a set of 15 care indicators, assessed individually, which impact clinical evolution and are determining factors of good care.

### 6 7 Percentage of door-to-ECG time within 10 minutes and mean door-to-ECG time

The recommendation is that the admission of a patient to the hospital until the electrocardiogram is performed is 10 minutes. These indicators represent the overall average of this time for patients admitted for AMI in 2023, as well as the percentage of patients who underwent the ECG within the recommended time.

### 8 9 Percentage of door-to-balloon time within 60 minutes in primary angioplasties and median door-to-balloon time in AMI

The institutional Goal for the time between the arrival of a patient with AMI and total occlusion of the coronary artery until the performance of coronary angioplasty is 60 minutes. These indicators represent the median of this time for admitted patients for this condition in 2023 as well as the percentage of patients who underwent primary angioplasty within the recommended time.

### 10 30-Day Readmission rate of AMI patients

Percentage of patients hospitalized for acute myocardial infarction who were readmitted within 30 days after discharge, for any unplanned reason, including obstetric and oncological passages, such as chemotherapy.

### 11 Adjusted hospital survival rate in AMI

Indicator that expresses the percentage of patients with hospital survival adjusted by severity for AMI from the National Cardiovascular Data Registry report of the American College of Cardiology (NCDR/ACC).

### 12 13 14 30-Day improvement rate for AMI patients measured by SAQ-7

Quality of life and physical limitation indicator to measure the improvement of angina in patients who have suffered a myocardial infarction, 30 days after hospital discharge. These measures are assessed using the Seattle Health Questionnaire (SAQ-7), a specific tool designed to measure the health status of patients with coronary artery disease. Circ Cardiovasc Qual Outcomes. 2014 Sep;7(5): 640-7

### 15 Average Net Promoter Score (NPS) over the last 3 years for admitted patients for AMI

Satisfaction is a measurable result of the patient's perception of the care and attention received from professionals and the quality of the services provided during hospitalization. It can be measured using the NPS score, which stands for Net Promoter Score, an evaluation metric that makes it possible to measure customer loyalty and satisfaction with the company. The NPS calculation is done using the following formula:  $NPS = Promoters - Detractors / Total \text{ number of respondents}$ . In general, the following parameters are considered for benchmarking: **Excellent** NPS – between 75 and 100. **Very good** NPS – between 50 and 74. **Reasonable** NPS – between 0 and 49.

# Neurology



**EINSTEIN NEUROLOGY** is a leader in the treatment of serious neurological pathologies and a pioneer in several areas. Launched in September 2004, the Einstein Neurology Program – Stroke (Cerebrovascular Accident) was the first center in Latin America to receive certification from the Joint Commission International. Recognized for its excellence in care, the program follows strict protocols and uses the best resources available for diagnosis and treatment. In 2021, it was also recognized as an Advanced Center by the WSO/SIECV (World Stroke Organization/Ibero-American Society of Cerebrovascular Diseases). In addition to in-hospital care, the certification emphasizes the patient rehabilitation, including physical therapy, occupational therapy, and speech therapy. The program's primary goal is to improve patients' clinical outcomes by reducing hospital stays and improving quality of life after discharge. To achieve this, it has a multidisciplinary team available 24 hours a day. We actively participate in the Optimal Stroke research, the largest study ever conducted in the world on post-stroke blood pressure levels, involving 4,000 patients.

We offer cutting-edge interventional neuroradiology and the distinction of an Integrated Multiple Sclerosis Center, with space for new infusion therapies, and the Synthetic software, capable of mapping brain myelin through Artificial Intelligence. In the functional neurology area, we provide non-invasive neuromodulation combined with rehabilitation activities and innovative research from the Brain Institute. We also have the Center for Excellence in Memory - NEMO, which offers diagnosis and second opinions from top-level specialists. In this center, we use the latest detection tests, such as Amyloid PET and dementia markers in CSF, which guarantee our patients complete care and access to the most advanced neurology.

## NEUROLOGY

### Certifications and recognition



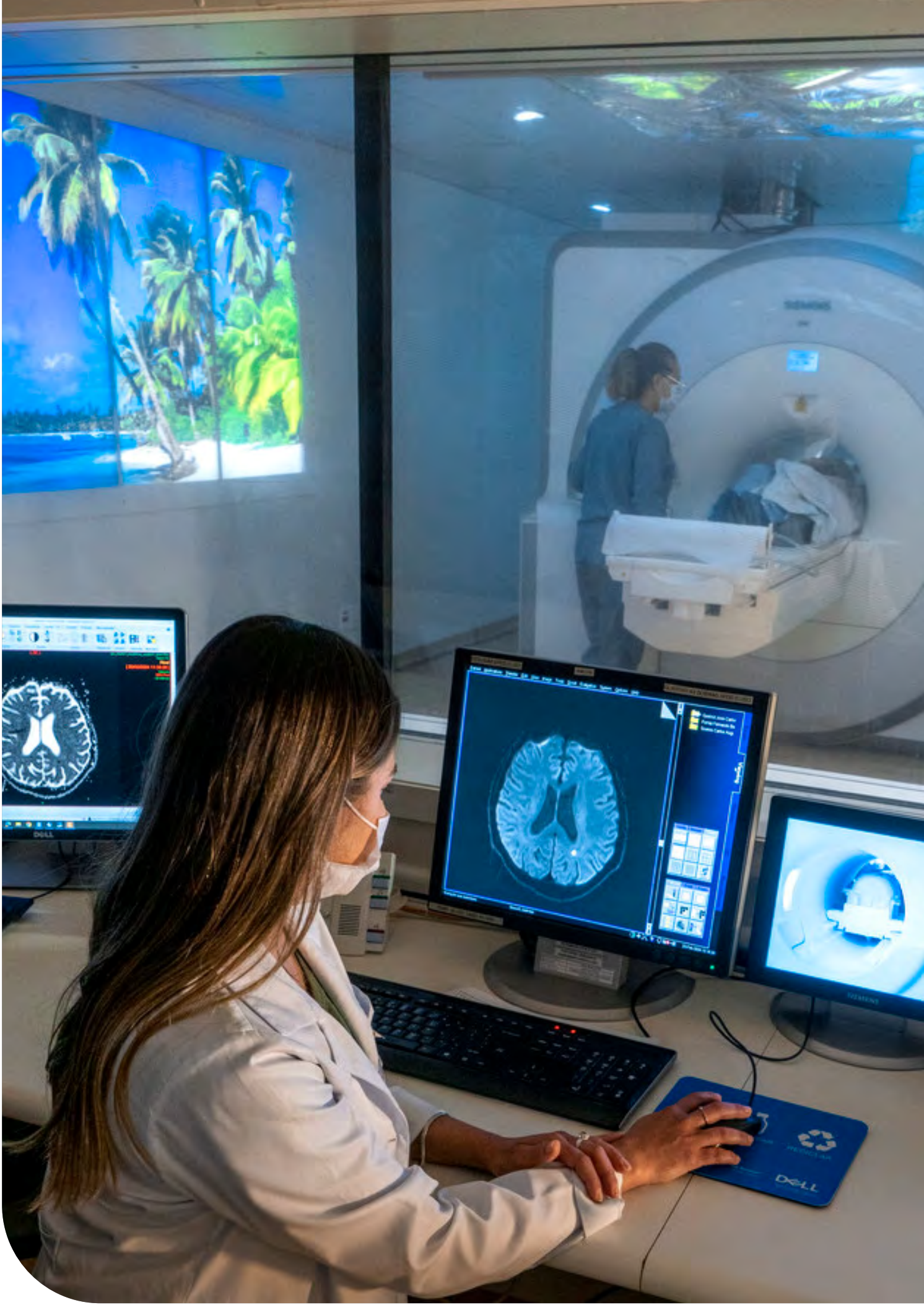
Advanced Stroke Center - World Stroke Organization/Ibero-American Society of Cerebrovascular Diseases (2021) with recertification to be conducted in 2024



RANKING  
NEWSWEEK 2024

**Neurology**  
2<sup>nd</sup> in Latin America  
60<sup>th</sup> in the world

**Neurosurgery**  
2<sup>nd</sup> in Latin America  
31<sup>st</sup> in the world



# Neurology

RESULTS 2023 ⊕ Better than reference ⊖ Equal to reference ⊖ Worse than reference

## VOLUME

# 15,602

Consultations

# 970

Procedures

NEURO INTERVENTION 409  
NEUROSURGERY 561

## REGISTERED PHYSICIANS

# 496

NEUROLOGISTS 282  
NEUROSURGEONS 214

## TEACHING

# 72

Alunos na Pós-graduação *lato sensu*

2 programas

# 9

Medical residents

# 1

Student in enhancement (Electroencephalography)

## SCIENTIFIC PRODUCTION

# 65

Publications

★★★★★  
43 in journals with impact factor > 1

## Stroke

APPROPRIATE CARE COST & COMPLICATIONS SURVIVAL & PROMS PATIENT EXPERIENCE/SATISFACTION

Rate of antithrombotic prescribed at hospital discharge

# 100%<sup>⊕</sup>

The higher, the better

1

REFERENCE >85%

• Get With The Guidelines® Stroke

Rate of antithrombotic prescribed in the first 48 hours

# 99%<sup>⊕</sup>

The higher, the better

2

REFERENCE >85%

• Get With The Guidelines® Stroke

Anticoagulant prescription rate for patients with stroke and atrial fibrillation

# 100%<sup>⊕</sup>

The higher, the better

3

REFERENCE >85%

• Get With The Guidelines® Stroke

Statin prescription rate at hospital discharge

# 93%<sup>⊕</sup>

The higher, the better

4

REFERENCE >85%

• Get With The Guidelines® Stroke

Median door-to-needle time

# 45 min<sup>⊕</sup>

The shorter, the better

5

REFERENCE <60 min

• American Stroke Association

# Neurology

RESULTS 2023 ⊕ Better than reference ⊖ Equal to reference ⊖ Worse than reference

## Stroke

APPROPRIATE CARE COST & COMPLICATIONS SURVIVAL & PROMS PATIENT EXPERIENCE/SATISFACTION

Median door to report time

**38 min** ⊕

The shorter, the better

6

REFERENCE <45 min

• American Stroke Association

Median door-to-groin time

**120 min** ⊖

The shorter, the better

7

REFERENCE <120 min

• American Stroke Association

Median length of hospital stay

**6 days** ⊖

The fewer, the better

8

REFERENCE 5,2 days

• ANAHP

All-cause 30-Day readmission rate

**9,4%** ⊕

The lower, the better.

9

REFERENCE 9,7%

• Based on cohort of the American population - PLoS ONE 2023 18(8): e0289640

In-hospital mortality rate in patients > or = 65 years of age and stroke.

**7,9%** ⊕

The lower, the better

10

REFERENCE 14%

• Centers for Medicare & Medicaid Services (CMS)  
\*For the population assisted, regardless of age, the rate is 5.2%

**83%**

of patients with ischemic stroke report no or mild functional disability (Modified Rankin Scale 0-2) within 90 days of hospital discharge.

11

Average patient satisfaction with in-hospital care measured by the Net Promoter Score (NPS) over the last 3 years.

**100** ⊕

The higher, the better

12

REFERENCE > 75%

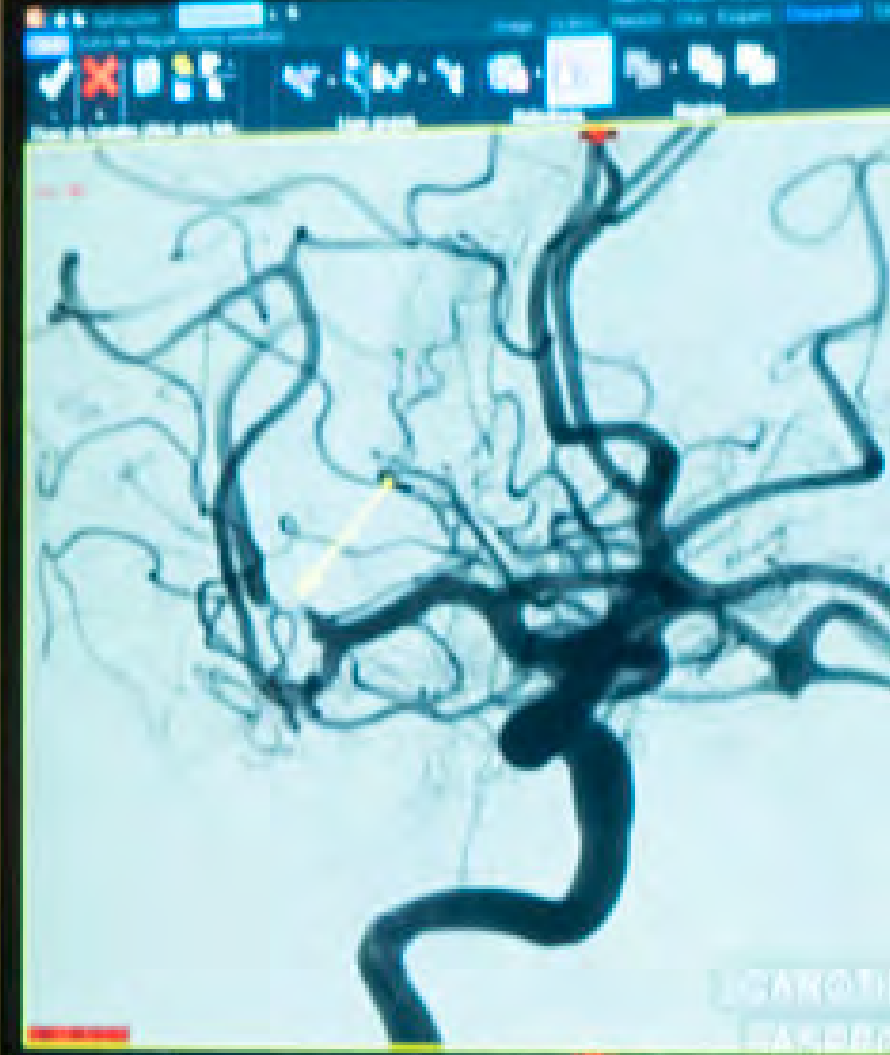
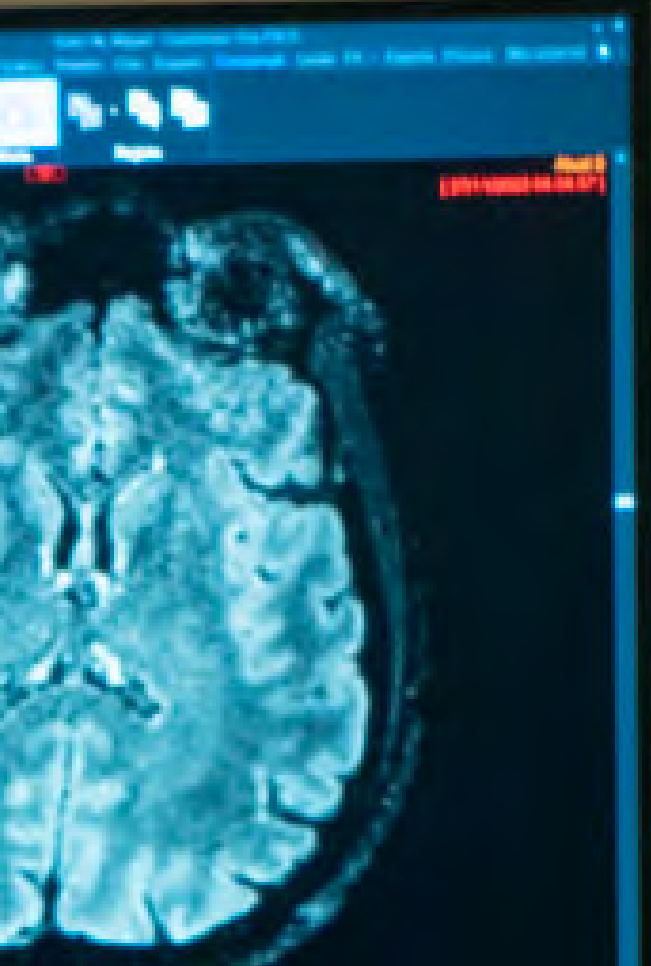
• NPS: Excellent

Percentage of patients with stroke who reported being satisfied or very satisfied with the treatment outcome 90 days after hospital discharge.

**99%**

The higher, the better

13



NEUROLOGY

## WHAT HAS BEEN DONE TO IMPROVE

- ▶ Change the workflow of the interventional neuroradiology team to improve the “door-to-groin” time.
- ▶ Acquire equipment for performing non-invasive neuromodulation, such as Transcranial Magnetic Stimulation and Direct Current Electrical Stimulation, which complement the diagnostic and therapeutic possibilities of neurological rehabilitation.
- ▶ Attract renowned clinical and surgical professionals with expertise in functional neurology to the clinical staff to meet the increasing demand for patients with movement disorders and the need for neurosurgical treatment, with the implementation of DBS.
- ▶ Acquire the protocol for identifying amyloid plaques through Amyloid PET as a tool to support the dementia diagnosis.
- ▶ Build of the Center of Excellence in Memory – NEMO.

# Understand the Neurology indicators

APPROPRIATE CARE   COST & COMPLICATIONS   SURVIVAL & PROMS   PATIENT EXPERIENCE/SATISFACTION

## 1 Rate of antithrombotic at hospital discharge for patients with ischemic stroke (IS)

The prescription of antithrombotic, including antiplatelet agents and anticoagulants, at hospital discharge for patients with ischemic stroke (ISC) is recommended to reduce mortality from stroke, recurrence of the condition and morbidities, provided there are no contraindications to their use.

## 2 Antithrombotic in the first 48 hours of stroke

The prescription of antiplatelet and/or anticoagulant within 48 hours of hospital admission for patients with stroke has been shown to be effective in reducing mortality and morbidity rates due to stroke, provided there are no contraindications to their use.

## 3 Prescription of anticoagulants at discharge of IS patients

This indicator refers to the prescription of statins at hospital discharge for patients with IS. Evidence has shown that intensive reduction of LDL cholesterol through statin therapy leads to a considerable reduction in the rates of recurrence of IS and coronary events. Therefore, it is recommended for all patients with stroke or transient vascular accident and LDL greater than 100 mg/dl (and lower, if the patient has undergone lipid-lowering therapy before hospital admission).

## 4 Statin prescription rate at hospital discharge

This indicator refers to the prescription of statins at hospital discharge for patients with IS. Clinical evidence indicates that intensive reduction of LDL cholesterol through statin therapy leads to a considerable reduction in the rates of recurrence of IS and coronary events. Therefore, it is recommended for all patients with stroke or transient vascular accident and LDL greater than 100 mg/dl (and lower, if the patient has undergone lipid-lowering therapy before hospital admission).

## 5 Median door-to-needle time in patients admitted for stroke

The sooner intravenous thrombolytic therapy is performed, the better the patient's prognosis. IS treatment, which has been used worldwide for several years, can be carried out with the medication alteplase (tPA), which can dissolve the blood clot that blocks the cerebral arteries, causing ischemia. It is recommended that treatment begins within 60 minutes of the patient's hospital admission via the Emergency Room (ER).

## 6 Median door to report time in stroke

This indicator reflects the time elapsed between the admission of a patient diagnosed with stroke to the ER and the performance of the cranial tomography report, carried out in the examination room. The target considered effective for carrying out this process is 45 minutes.

## 7 Median door-to-groin time in ischemic stroke

This indicator reflects the time elapsed between the admission of the patient diagnosed with stroke to the ER until the moment of arterial puncture for mechanical thrombectomy. The goal for performing this procedure is up to 120 minutes.

## 8 Median length of hospital stay

The median length of hospital stay is a measure of central tendency, which indicates the length of time patients are hospitalized. It is a classic indicator, which is related to good clinical practices and shows whether the hospital bed is managed efficiently.

## 9 30- Day Readmission rate of IS patients

Percentage of patients hospitalized for stroke who are readmitted within 30 days after discharge, for any reason.

## 10 In-hospital mortality rate for IS

This indicator shows the percentage of patients who were admitted for stroke and died before hospital discharge.

## 11 Modified Rankin Score at 90 days after stroke

We assess the degree of disability and dependence in activities of daily living in IS patients using the validated Modified Rankin Score instrument. The Modified Rankin Scale score ranges from 0 to 6. Patients with scores of 0 and 1 are classified as independent, with no or minimal disability. Patients classified as 2 and 3 are those who have some disability, but through adaptations, they can perform the activities normally performed before the stroke and walk without help. Patients classified as 4 and 5 are unable to walk without assistance and may be confined to bed, requiring a 24-hour caregiver. Death is classified as a score of 6.

## 12 Patient satisfaction admitted for stroke with the treatment outcome at Albert Einstein Hospital

Einstein patient satisfaction is measured by the Health Care Assessment Center, through an interview with the patient after hospital discharge, which includes a question about how satisfied the patient is with the outcome of the treatment received at Einstein. Responses range from very satisfied to very dissatisfied. In this Dossier, we report the percentage of "satisfied" and "very satisfied" responses.

## 13 Average Net Promoter Score (NPS) over the last 3 years for patients admitted for stroke

Satisfaction is a measurable result of the patient's perception of the care and attention received from professionals and the quality of services provided during hospitalization. The calculation is done using the following formula: 
$$NPS = \frac{\text{Promoters} - \text{Detractors}}{\text{Total number of respondents}}$$
 The parameter scores are:  
**Excellent** NPS, from 75 to 100;  
**Very good** NPS, from 50 to 74;  
**Reasonable** NPS, from 0 to 49.

# Pneumology



**PNEUMOLOGY** at Hospital Israelita Albert Einstein is made up of highly qualified and dedicated medical professionals. Einstein's Pulmonology area is qualified to address everything from simple to the most complex clinical situations, covering conditions such as asthma, chronic obstructive pulmonary disease, pulmonary embolism, interstitial lung disease, sarcoidosis, pulmonary vasculitis, sleep apnea, lung cancer and lung transplant.

We have a wide range of diagnostic resources, such as chest tomography, lung function tests, cardiopulmonary tests, bronchoscopy and interventional radiology, in addition to our own laboratory with the capacity to detect microorganisms, with specific cultures and molecular tests. Genetic tests are used to identify specific mutations in cystic fibrosis cases.

The most challenging cases are discussed in weekly meetings by multidisciplinary teams, with radiologists, pulmonologists, thoracic surgeons, bronchoscopists and pathologists. The most serious patients receive support from intensive care and the semi-intensive unit during critical periods, and those at risk of aspiration are monitored by the Dysphagia Center, which can perform specific exams to assess swallowing.

We also offer an extensive support network of physiotherapy, speech therapy and occupational therapy, including specialized physiotherapy and pulmonary rehabilitation services, which are essential for recovery and an improvement in the patients' quality of life.

## PNEUMOLOGY

### Recognition



RANKING  
NEWSWEEK 2024

2<sup>nd</sup> in Latin America  
125<sup>th</sup> in the world



VOLUME

**10,227**

Consultations

REGISTERED PHYSICIANS

**95**

Pneumologists

TEACHING

**12**

Multidisciplinary residents

1 program

**9**

Multidisciplinary enhancement students

2 programs

**1**

Medical enhancement students:

Advanced pneumopathies and pulmonary transplant

1 program

SCIENTIFIC PRODUCTION

**8**

Publications

★★★★★  
6 in journals with impact factor > 1

# Pneumology

RESULTS 2023 ⊕ Better than reference ⊖ Equal to reference ⊖ Worse than reference

## Pneumonia

APPROPRIATE CARE COST & COMPLICATIONS SURVIVAL & PROMS PATIENT EXPERIENCE/SATISFACTION

30-Day readmission of patients admitted for pneumonia aged 65 or over

**22%** ⊖

The lower, the better

REFERENCE 18% (unplanned)

- Massachusetts General Hospital, 2018-2021 (3rd best hospital in the world for Pulmonology according to Newsweek ranking)

1

In-hospital mortality rate in patients admitted for pneumonia aged 65 years and older

**8,2%** ⊕

The lower, the better

REFERENCE 15%

- Average for American hospitals, according to the Centers for Medicare and Medicaid Services (CMS).

2

NPS of patients admitted for pneumonia in the last 3 years

**77** ⊕

The greater, the better

REFERENCE >75

- NPS - Excellent

3

## Chronic obstructive pulmonary disease (COPD)

APPROPRIATE CARE COST & COMPLICATIONS SURVIVAL & PROMS PATIENT EXPERIENCE/SATISFACTION

30-Day readmission of patients admitted for decompensated COPD aged 65 years or older

**17%** ⊕

The lower, the better

REFERENCE 20% (unplanned)

- Average for American hospitals, according to the Centers for Medicare and Medicaid Services (CMS).

4

In-hospital mortality rate in patients admitted for COPD aged 65 years and older

**6,3%** ⊕

The lower, the better

REFERENCE 8,1%

- Average for American hospitals, according to the Centers for Medicare and Medicaid Services (CMS).

5

NPS of patients admitted for COPD over the last 3 years

**100** ⊕

The higher, the better

REFERENCE >75

- NPS: Excellent

6

## TEP (Pulmonary Thromboembolism)

APPROPRIATE CARE COST & COMPLICATIONS SURVIVAL & PROMS PATIENT EXPERIENCE/SATISFACTION

30-Day All-Cause readmission rate of patients admitted for PE

**12%** ⊖

The lower, the better

REFERENCE 12%

- Circulation. 2021;144:A13350

7

In-hospital survival of patients admitted for PE

**97%** ⊕

The higher, the better

REFERENCE 94%

- Am J Cardiol 2022;176:132 -138

8



PNEUMOLOGY

**WHAT HAS BEEN DONE TO IMPROVE**

- ▶ Have monthly meetings with pulmonologists, thoracic surgeons, nurses and physiotherapists in a constant search for better practices and improvements in patient care.
- ▶ Review, update and discuss the service flowcharts during the Medical Assistance Group meetings.

## Understand the Pulmonology indicators

■ APPROPRIATE CARE 
 ■ COST & COMPLICATIONS 
 ■ SURVIVAL & PROMS 
 ■ PATIENT EXPERIENCE/SATISFACTION

**1 4 30-day unplanned readmission of patients admitted for pneumonia, COPD, or PE who are 65 years or older**

Percentage of hospitalized patients with these conditions and aged 65 years or older who needed to be readmitted within 30 days after discharge for any unplanned reason.

**2 5 In-hospital mortality rate in patients admitted for pneumonia or COPD aged 65 years or older**

Percentage of patients admitted for pneumonia, COPD or PE who died in hospital after being admitted to the hospital. Reflects the severity of the condition and the effectiveness of the care provided during hospitalization.

**7 30-day all-cause readmission rate for patients hospitalized for PE**

Percentage of patients admitted for PE who need to be readmitted for any cause within 30 days after discharge.

**8 In-hospital survival of patients admitted for PE**

Percentage of patients admitted for pulmonary thromboembolism (PE) who survive during their hospital stay. It is important to measure the effectiveness of care provided during the acute phase of PE and the ability of the health system to deal with this potentially serious condition. A high survival rate indicates that patients are receiving adequate treatment.

**3 6 NPS**

Satisfaction is a measurable result of the patient's perception of the care and attention they receive from professionals and the quality of services provided during hospitalization. It is measured using the NPS (Net Promoter Score), a metric of customer loyalty and satisfaction with the company. The calculation is done using the following formula:  $NPS = (Promoters - Detractors) / Total \text{ number of respondents}$ . The parameter scores are: **Excellent NPS**, from 75 to 100; **Very good NPS**, from 50 to 74; **Reasonable NPS**, from 0 to 49.

For the pneumonia indicator, we considered all cases admitted by the UPA with this diagnosis, both viral and bacterial, including aspiration pneumonia and sepsis (if the secondary diagnosis was pneumonia).

# Endocrinology



## AT ALBERT EINSTEIN

**HOSPITAL**, Diabetes receives special attention. Since 2009, the hospital has had a Diabetes Program, which manages and provides support for the glycemic control of all hospitalized patients and trains professionals, patients and families to assist for this condition. Today, the HIAE Diabetes Program works to: track and assist in the appropriate treatment of patients with blood glucose levels, according to the standards of the Brazilian Diabetes Society and the Joint Commission International; identify patients at risk of hypoglycemia and adopt preventive measures; prepare employees to provide assistance in this area; train patients for self-care, through an educational process for the prevention and treatment of diabetes; and monitor and publish quality indicators for care for patients with blood glucose levels.

In the obesity area, the hospital provides the Einstein Obesity Prevention and Treatment Center (CPTOE) to patients who aim to reduce excess weight and/or control associated diseases.

The center is made up of a team of professionals specialized in the treatment of overweight patients, including endocrinologists, nurses, physiotherapists, nutritionists and psychologists. The treatment offered by CPTOE is divided into three phases – initial, clinical treatment and surgical treatment – to provide comprehensive care while also being aware of the individual needs of each patient. The Managed Protocol in Bariatric Surgery establishes appropriate procedures for the diagnosis, classification and treatment of severe obesity in patients treated at the Einstein Obesity Surgery Center.

## ENDOCRINOLOGY

### Recognition



#### RANKING NEWSWEEK 2024

2<sup>nd</sup> in Latin America  
68<sup>th</sup> in the world



# Endocrinology

RESULTS 2023 ⊕ Better than reference ⊖ Equal to reference ⊖ Worse than reference

VOLUME

**11,978**

Consultations with endocrinologists

**730**

Procedures

BARIATRICS SURGERIES 400  
THYROIDECTOMIES 330  
(49 partial | 281 total)

REGISTERED PHYSICIANS

**155**

Endocrinologists

TEACHING

**10**

Postgraduate students *lato sensu*

1 program

SCIENTIFIC PRODUCTION

**3**

Publications

★★★★★

2 in journals with impact factor > 1

## Glycemic Control

APPROPRIATE CARE COST & COMPLICATIONS SURVIVAL & PROMS PATIENT EXPERIENCE/SATISFACTION

Compliance rate in checking of capillary blood glucose levels of inpatients

**94%** ⊕

The higher, the better

①

REFERENCE >90%

• Institutional Goal

Compliance rate in insulin administration of inpatients

**79%** ⊖

The higher, the better

②

REFERENCE >90%

• Institutional Goal

Patient-day rate with hypoglycemia (<70 mg/dL).

**1,9%** ⊕

The lower, the better

③

REFERENCE 3,9%

• Society Hospital Medicine

Patient-day rate with hyperglycemia (mean blood glucose level > 180 mg/dL).

**7,6%** ⊕

The higher, the better

④

REFERENCE 18%

• Society Hospital Medicine

Patient-day rate with severe hyperglycemia (>299 mg/dL)

**2,3%** ⊕

The lower, the better

⑤

REFERENCE 5,5%

• Society Hospital Medicine

# Endocrinology

RESULTS 2023 ⊕ Better than reference ⊖ Equal to reference ⊖ Worse than reference

## Obesity - Bariatric Surgery

APPROPRIATE CARE COST & COMPLICATIONS SURVIVAL & PROMS PATIENT EXPERIENCE/SATISFACTION

Average length of stay in the postoperative period of bariatric surgery

**2,2 days**<sup>⊕</sup>

The fewer, the better

6

REFERENCE 3 days

• Obes Surg 27, 226-235 (2017)

Reduction rate in the prevalence of diabetes mellitus 12 months following bariatric surgery

**93%**

The higher, the better

7

Reduction Rate in the prevalence of high blood pressure 12 months following bariatric surgery

**68%**

The higher, the better

8

Reduction rate in the prevalence of dyslipidemia 12 months following bariatric surgery

**82%**

The higher, the better

9

Percentage of patients with improved psychosocial outcomes 12 months following surgery, according to the Obesity-Related Problems Scale

**94%**

The higher, the better

10

Percentage of patients undergoing bariatric surgery who reported being satisfied or very satisfied with the treatment results

**88%**

The higher, the better

11

Average NPS for the last 3 years for bariatric surgery

**81,4**<sup>⊕</sup>

The higher, the better

REFERENCE > 75%

• NPS: Excellent

12

## ENDOCRINOLOGY

### WHAT HAS BEEN DONE TO IMPROVE

► **Educate the patient:**

Guidance on blood glucose monitoring, treatment targets, insulin administration, basics on diet and physical activity, correction of hypoglycemia/hyperglycemia.

► **Use information technology:**

Work together with the system team to continuously improve processes related to diabetes mellitus.

► **Hold scientific meetings/**

**Professional development:**

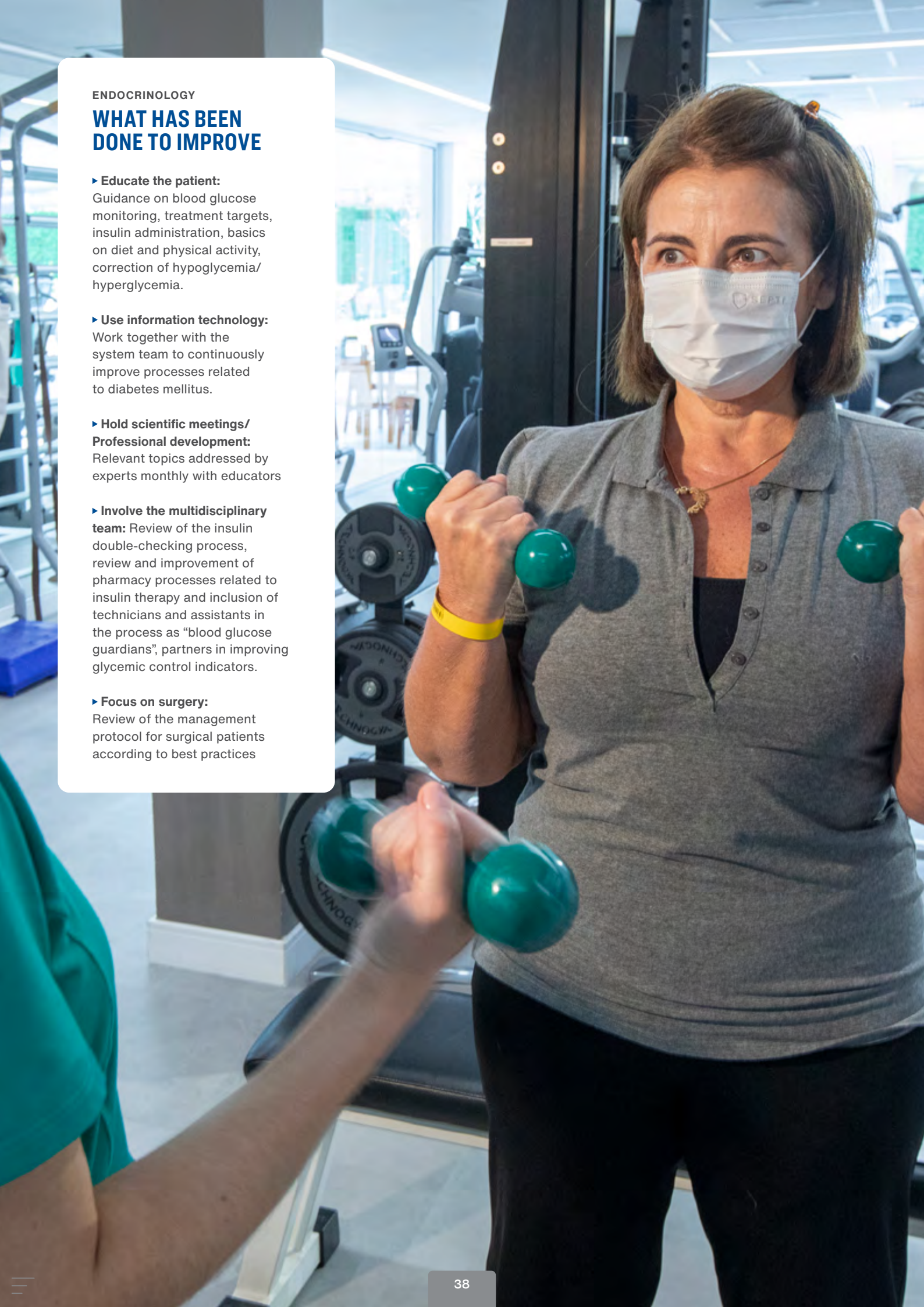
Relevant topics addressed by experts monthly with educators

► **Involve the multidisciplinary**

**team:** Review of the insulin double-checking process, review and improvement of pharmacy processes related to insulin therapy and inclusion of technicians and assistants in the process as “blood glucose guardians”, partners in improving glycemic control indicators.

► **Focus on surgery:**

Review of the management protocol for surgical patients according to best practices



# Understand the Endocrinology indicators

APPROPRIATE CARE COST & COMPLICATIONS SURVIVAL & PROMS PATIENT EXPERIENCE/SATISFACTION

## 1 Taxa de adequação na verificação da glicemia capilar Adequacy rate in checking capillary blood glucose

The glycemic monitoring process, when not performed effectively, can result in acute complications (hypoglycemia and hyperglycemia) that lead to a greater risk of infections, longer hospital stays and healthcare costs. This indicator assesses the number of patients prescribed pre-prandial capillary blood glucose levels in which all processes were carried out in the correct order and at the appropriate time interval, out of the total number of blood glucose levels prescribed on the day of the audit.

**2 Insulin adequacy rate**  
Measures whether insulin applications are being performed in the proper order and at the appropriate time interval over the total number of eligible insulin administrations on the day of the audit. Data analysis reflects whether the insulin administration process and capillary blood glucose verification are coordinated.

**3 Rate of patients with hypoglycemia < 70 mg/dL** For purpose of epidemiological surveillance of glycemic control during hospitalization, this indicator measures the incidence density of hypoglycemia (below 70 mg/dl) among inpatients.

**4 Rate of patient-days with hyperglycemia (mean blood glucose > 180 mg/dL)**  
This indicator demonstrates the incidence density of hyperglycemia (above 180 mg/dL) among inpatients.

**5 Rate of patients with hospital hyperglycemia >299mg/dL**  
This indicator demonstrates the incidence density of severe hyperglycemia (above 299 mg/dL) among hospitalized patients.

**6 Average length of stay after bariatric surgery**  
Measures how many days on average patients were hospitalized after undergoing bariatric surgery.

**7 Reduction rate in the prevalence of arterial hypertension 12 months following bariatric surgery**  
Measures the reduction in the prevalence of arterial hypertension in patients undergoing bariatric surgery a12 months period following bariatric surgery.

**8 Reduction rate in the prevalence of dyslipidemia 12 months following bariatric surgery**  
Measures the reduction in the prevalence of dyslipidemia in patients undergoing bariatric surgery 12 months period following bariatric surgery.

**9 Reduction rate in the prevalence of diabetes mellitus 12 months following bariatric surgery**  
Measures the reduction in the prevalence of diabetes mellitus in patients undergoing bariatric surgery 12 months period following bariatric surgery.

**10 Improvement rate in quality of life and psychosocial aspects 12 months following surgery measured by the Obesity-related problems scale**  
The obesity-related problems instrument is a scale of patient-reported outcomes that primarily measures the impact of excess weight on psychosocial functioning. This instrument evaluates on a scale of 0 to 100 points, with the lower the score, the better." Einstein. 2017;15(3):327-33

**11 Percentage of patients undergoing bariatric surgery who reported being satisfied or very satisfied with the results of the treatment**  
Einstein patient satisfaction is measured by the Health Care Assessment Center through an

interview with the patient, after their hospital discharge, which includes a question about how satisfied the patient is with the results of the treatment received at Einstein. Responses range from very satisfied to very dissatisfied. In this Dossier, we report the percentage of responses "satisfied" and "very satisfied".

**12 Average Net Promoter Score (NPS) for the last 3 years for bariatric surgery**  
Satisfaction is a measurable result of the patient's perception of the care and attention received from professionals and the quality of services provided during hospitalization. It can be measured using the NPS, which stands for Net Promoter Score, an metric assessment that makes it possible to measure customer loyalty and satisfaction with the company. The NPS calculation is done using the following formula:  $NPS = \frac{\text{Promoters} - \text{Detractors}}{\text{Total number of respondents}}$ . In general, the following parameters are considered for benchmarking: **Excellent NPS** – between 75 and 100. **Very good NPS** – between 50 and 74. **Reasonable NPS** – between 0 and 49.

# Oncology



**THE EINSTEIN DAYAN-DAYCOVAL FAMILY ONCOLOGY AND HEMATOLOGY CENTER** is a reference center is a reference center for assisting patients with cancer and hematological diseases, and offers care from prevention to diagnosis, in addition to various treatment modalities. Its interdisciplinary and highly qualified team works on the prevention and early management of symptoms, improving the quality of life and patients' experience. The Center stands out for its integrated care, humanized approach and cases of overcoming.

The Clinical Staff and the interdisciplinary team meet weekly in Tumor Boards, interdisciplinary committees to discuss cases in specific areas such as Head and Neck, Gastrointestinal, Genitourinary, Gynecological and Pelvic, Breast, Multidisciplinary, Neuro-Oncology, Sarcoma, Melanoma, Support Therapy, Chest,

Nursing, Gastrointestinal (Upper), Gastrointestinal (Lower) and Radiation Oncology (only Oncology).

Pediatric Oncology has a trained team to ensure safety and comfort for families, with psychological support and special attention to the needs of each patient and their caregivers throughout the entire journey. Pedagogy professionals, physical education professionals, and teachers make up their multidisciplinary team.

The Survivorship Integrated Program offers ongoing support to cancer patients through a service that helps them deal with physical, emotional and social issues that arise after treatment. In addition to this support, the program's objectives include monitoring recurrences, preventing new cancers and managing late effects of treatment.

ONCOLOGY

## Recognition

**ASCO QOPI**  
Certification Program



RANKING  
NEWSWEEK 2024

1<sup>st</sup> in Latin America  
17<sup>th</sup> in the world

## HIGHLIGHTS

### ► INTERNATIONAL CONNECTION

Partnership with City of Hope Hospital (USA) for training, research and therapy exchanges.

### ► PRECISION ONCOLOGY

Molecular and genetic tests for the accurate diagnosis of hereditary syndromes and somatic mutations, which allow personalized approaches, with guidelines constantly updated according to the Molecular Care

Pathways meetings at the Precision Oncology Forum.

### ► INTERVENTIONAL RADIOLOGY

A vital performance within the Einstein Oncology and Hematology Center, it has the most advanced technology available to provide emergency care, diagnostic images and deep biopsies in hard-to-reach areas, guided by tomography or ultrasound.

### ► SOCIAL RESPONSIBILITY

Sociedade Beneficente Israelita

Brasileira Albert Einstein manages the Dr. Gilson de Cássia Marques de Carvalho Municipal Hospital (São Paulo) through an unprecedented partnership with the Ministry of Health and the City of São Paulo. The unit, which has ONA 3 accreditation, offers diagnostic services, clinical specialty outpatient clinics, surgery and hospitalization, and treats 2,500 new cancer patients per year. This is the first and only Brazilian public hospital to receive the QOPI certificate from ASCO (American Society of Clinical Oncology).



# Oncology

RESULTS 2023 ⊕ Better than reference ⊖ Equal to reference ⊖ Worse than reference

## VOLUME

**16,094**

Oncological consultations

**3,614**

Oncological surgeries

## REGISTERED PHYSICIANS

**212**

CLINICAL ONCOLOGY 159  
ONCOLOGICAL SURGERY 53

## TEACHING

**174**

Postgraduate students  
*lato sensu*

12 programs

**12**

Medical residency students

1 program

**6**

Multidisciplinary medical residents

1 program

**1**

Medical enhancement student (radiotherapy)

## SCIENTIFIC PRODUCTION

**74**

Publications

★★★★★

60 in journals with impact factor > 1

## Oncology

APPROPRIATE CARE COST & COMPLICATIONS SURVIVAL & PROMS PATIENT EXPERIENCE/SATISFACTION

Rate of patients who received <90% or >110% of the prescribed radiotherapy dose

**0%** ⊕

The fewer, the better

REFERENCE 0%

• Institutional Goal

①

Rate of patients who died due to cancer while receiving antineoplastic therapy in the last 14 days of life.

**8,0%** ⊕

The fewer, the better

REFERENCE 10%

• Cancer. 2014 Jun 1;120(11):1743-9

②

Rate of cancer patients in palliative care who died in the ICU

**10%** ⊖

The lower, the better

REFERENCE 10%

• Cancer. 2014 Jun 1;120(11):1743-9

③

HER 2-rate tested in patients diagnosed with breast cancer

**100%** ⊕

The higher, the better

REFERENCE >95%

• Institutional Goal

④

Rate of patients appropriately assessed regarding pain

**93%** ⊕

The higher, the better

REFERENCE >90%

• Institutional Goal

⑤

Bloodstream infection incidence density rate (per 1,000 central venous catheters- day) in an oncology unit

**0,32%**<sup>+</sup>

The lower, the better

**REFERENCE 0,93%**

- The National Database of Nursing Quality Indicators® (NDNQI®)

Bloodstream infection incidence density rate (per 1,000 central venous catheters days) in outpatient settings

**0,32%**<sup>+</sup>

The lower, the better

**REFERENCE 0,50%**

- Institutional goal

Chemotherapy extravasation rate

**0%**<sup>+</sup>

The lower, the better

**REFERENCE 0%**

- Institutional goal

Grades III and IV breast radiodermatitis rate

**0%**<sup>+</sup>

The lower, the better

**REFERENCE 2%**

- Radiat Oncol 13, 218 (2018).

## Breast Cancer

Satisfaction with breast surgery: average score (BreastQ) 12 months after breast surgery (mastectomy and reconstruction)

**76**

The higher, the better

**REFERENCE >70**

- OECD 2022, Patient reported outcome measures (PROMS) for breast cancer care

Satisfação com a cirurgia de mama: média da pontuação (BreastQ) 12 meses após a cirurgia mamária (terapia conservadora)

**78**

The higher, the better

**REFERENCE >70**

- OECD 2022, Patient reported outcome measures (PROMS) for breast cancer care

## Prostata Cancer

Rate of patients who do not experience urinary incontinence after 12 months of surgery prostate cancer treatments

**96%**<sup>+</sup>

The higher, the better

**REFERENCE 90%**

- Martini Klinik (www.martini-klinik.de/en)

Rate of patients reporting preserved sexual function 12 months after prostate cancer treatment surgery

**84%**<sup>+</sup>

The higher, the better

**REFERENCE 81%**

- Martini Klinik (www.martini-klinik.de/en)

Percentage of patients who reported being satisfied or very satisfied with the outcome of prostate cancer treatment 12 months after hospital discharge

**90%**

Average NPS of the last 3 years of patients treated for Prostate Cancer

**93**<sup>+</sup>

The higher, the better

**REFERENCE >75**

- NPS: Excellent

NPS Outpatient Oncology (general)

**94**<sup>+</sup>

The higher, the better

**REFERENCE >75**

- NPS: Excellent

NPS Oncology inpatient (general)

**89**<sup>+</sup>

The higher, the better

**REFERENCE >75**

- NPS: Excellent

## ONCOLOGY

### WHAT HAS BEEN DONE TO IMPROVE

- ▶ Implement new processes and indicators as part of the process that has led to accreditation by QOPI - ASCO - American Society of Clinical Oncology.
- ▶ Review operational processes to identify improvement opportunities and patient and family experience.
- ▶ Implement improvements to the electronic medical record to enhance support for the healthcare team, also creating tutorials for its adequate completion.
- ▶ Start Pilot Project - Integrative Oncology, with person-centered care, supported by integrative practices to take care for the body and mind, but also the patient's social and spiritual life.
- ▶ Develop a partnership with City of Hope Cancer Center (USA) that includes educational exchange through webinars, joint discussion of clinical cases, sending residents for observational internships, genetics courses, among other activities that aim to increase the quality of care provided to cancer patients.
- ▶ Improve the quality of care provided to cancer patients, with a new Cancer Center, providing them with monitoring in a hospital specialized in oncology, scheduled to open in 2027.



# Understand the Oncology indicators

APPROPRIATE CARE COST & COMPLICATIONS SURVIVAL & PROMS PATIENT EXPERIENCE/SATISFACTION

## 1 Rate of patients who received < 90% or >110% of the prescribed radiotherapy dose

Percentage of patients undergoing radiotherapy treatment who received a dose different from that prescribed and out of the 10% range, above or below the recommended dose. The prescribed dose goes through careful calculations by the multi-disciplinary team and any change may result in reduced efficacy or increased toxicity. Therefore, monitoring the indicator is essential to ensure adequate treatment.

## 2 Rate of patients who died from cancer who were undergoing antineoplastic therapy in the last 14 days of life

Percentage of patients who died due to cancer and who underwent some antineoplastic therapy in the last 15 days of life.

## 3 Mortality rate of cancer patients receiving palliative care in the ICU

Percentage of patients receiving palliative care who died during their stay in the ICU.

## 4 Rate of HER 2 tested in patients diagnosed with breast cancer

Percentage of breast cancer patients who were tested for the presence of human epidermal growth factor receptor 2 (HER2).

## 5 Rate of patients properly assessed for pain

Percentage of patients who were properly assessed for pain.

## 6 Bloodstream infection rate (per 1,000 central venous catheters / day) in an oncology unit

Fraction of oncology patients with bloodstream infection associated with the use of Central Venous Catheter (CVC) who used it for more than two calendar days and who presented signs and symptoms defining this condition in oncology units.

## 7 Bloodstream infection incidence density rate (per 1,000 central venous catheters / day) in outpatient settings

Fraction of cancer patients with bloodstream infection associated with the use of Central Venous Catheter (CVC) who used it for more than two calendar days and who presented signs and symptoms defining this condition in the outpatient clinic.

## 8 Chemotherapy extravasation rate Percentage of chemotherapy patients who had accidental escape of vesicant drugs from the blood vessel into adjacent tissues.

Monitoring of this indicator is highly recommended, since chemotherapy infusion is a high-risk procedure that requires oncology nursing care.

## 9 Rate of breast radiodermatitis grades III and IV

Percentage of patients submitted to ionizing radiation who presented radiodermatitis, a skin lesion resulting from this exposure. Monitoring this indicator allows preventive actions to be taken regarding the incident.

## 10 11 Satisfaction with breast surgery: average score (BreastQ) 12 months after breast surgery (therapies: mastectomy and reconstruction and conservative)

The Breast-Q is a questionnaire internationally used to measure the results of breast cancer surgeries from the patients' perspective. The breast satisfaction scales are divided into items, with questions about the appearance of the breast, clothing problems, ability to wear tight clothing and appearance of scars. It provides a score that allows comparison and evaluation of surgical results according to the type of procedure. The score ranges from 0 to 100, with the grades proportional to the satisfaction with the result of the surgery. Rev. Bras. Cir. Plást.2013; Vol. 28 (No.4)

## 12 Rate of patients who do not present urinary incontinence after 12 months of prostate cancer surgery

Percentage of patients with prostate cancer who present complete urinary continence 12 months after surgery, calculated as part of the EPIC-CP questionnaire. This is an important indicator of quality of life for patients undergoing prostatectomy. BMC Urol. 2020 Oct 20;20(1):163.

## 13 Rate of patients reporting preserved sexual function 12 months after prostate cancer surgery

Percentage of prostate cancer patients with preserved sexual function 12 months after surgery, an index calculated as part of the EPIC-CP questionnaire. This is another important indicator of quality of life for patients undergoing prostatectomy. BMC Urol. 2020 Oct 20;20(1):163.

## 14 Rate of patients who reported being "satisfied" or "very satisfied" with the outcome of prostate cancer treatment 12 months after hospital discharge

Einstein patient satisfaction is measured by the Health Care Assessment Center, through an interview after hospital discharge, which includes a question about how satisfied the patient is with the results of the treatment received at the hospital. Responses range from "very satisfied" to "very dissatisfied". In this Dossier, we report the percentage of "satisfied" and "very satisfied" responses.

## 15 16 17 NPS

Satisfaction is a measurable result of the patient's perception of the service and care received from professionals and the quality of services provided during hospitalization. It is measured by the NPS (Net Promoter Score), a metric of customer loyalty and satisfaction with the company. The calculation is done using the following formula:  $NPS = (Promoters - Detractors) / Total \text{ number of respondents}$ . The parameter scores are: Excellent NPS – between 75 and 100. Very good NPS – between 50 and 74. Reasonable NPS – between 0 and 49

# Hematology



## HOSPITAL ISRAELITA ALBERT

**EINSTEIN** began its bone marrow transplant activities in June 1987, through a multidisciplinary and multiprofessional team of doctors. The following year, allogeneic transplants began. Since then, the hospital has stood out as one of the pioneers in cryobiology in Brazil. In 1997 the first unrelated umbilical cord blood cell transplant in the country was performed at Albert Einstein Hospital, consolidating its position as one of the leaders in this area. Since then, it has achieved a significant milestone of more than 1,500 successful transplants and has been consolidated as a national reference and training center by the Ministry of Health.

The Hematology, Bone Marrow Transplant and Advanced Therapies Program is made up of a matrix of sectors that work in an integrated way in care, and in the areas of teaching, research and social actions. To improve patient care, there are

two weekly meetings and a daily assessment of multidisciplinary teams to plan personalized care.

The bone marrow transplant unit has a team of more than 40 professionals from different areas, including doctors, nurses, nutritionists, psychologists, dentists, social workers and physiotherapists, and has crucial support from clinical pathology, anatomopathology, hemotherapy and cell therapy laboratories.

The department stands out for its innovative activities, such as the use of total bone marrow irradiation in transplant conditioning, and for its research, such as the development of its own cell therapies for the treatment of hemopathies. Among several international accreditations, it stands out as the only Reference Laboratory in Immunohematology accredited by the American Association of Blood Banks (AABB) in Latin America.

## HEMATOLOGY

### Certifications



#### FACT

**Reaccreditation** for autologous and allogeneic hematopoietic stem cell transplantation in adult and pediatric age groups.

**Accreditation** for Immune-effector Cell Therapy

## ASCO QOPI<sup>®</sup> Certification Program

Certification for outpatient practices of excellence in clinical oncology.



## PLATFORM HEMATOLOGY

► Hematolog is an innovative platform that offers reliable and updated information on hematology and connects professionals seeking knowledge in this area. Through an app, it offers resources such as case and roundtable discussions with renowned doctors, video classes, articles and podcasts. The content is produced and evaluated by the medical team of the Sociedade Beneficente Israelita Brasileira Albert Einstein, with the contribution of specialists from Brazil and abroad.

Total users

**>10 THOUSAND**

Monthly users

**>3.9 THOUSAND**

Posted content

**>300**

Accesses

**>77 THOUSAND**

Pageviews (videos)

**>9 THOUSAND**

Pageviews (articles)

**>5 THOUSAND**

FIND OUT MORE:

<https://www.hematolog.app>

# Hematology

RESULTS 2023 ⊕ Better than reference ⊖ Equal to reference ⊖ Worse than reference

## VOLUMES

**7.417**  
Consultations

**74**  
Procedures

CAR-T 8  
BONE MARROW TRANSPLANT (BMT) 66

## REGISTERED PHYSICIANS

**47**  
Hematologists

## TEACHING

**17**  
Postgraduate students  
*lato sensu*

1 program

**8**  
Medical residents  
6 in Hematology  
2 in Bone Marrow Transplant

**1**  
Student in Laboratory Hematology Enhancement Program

**3**  
Students in the Hemotherapy and Cellular Therapy Enhancement Program

## SCIENTIFIC PRODUCTION

**183**  
Publications

★★★★★  
167 in journals with impact factor > 1

## Hematological Neoplasms

APPROPRIATE CARE COST & COMPLICATIONS SURVIVAL & PROMS PATIENT EXPERIENCE/SATISFACTION

### Lymphomas

Overall survival (OS) in primary mediastinal non-Hodgkin's Lymphoma

1 TO 5 YEARS

**92%**

①

### Acute myeloid leukemia

5-year overall survival by European Leukemia Net 2022 risk in patients under 60 years of age.

LOW

**100%**

INTERMEDIATE

**64%**

HIGH

**36%**

#### REFERENCE

• Rausch C et al. (Alemanha, 2023) Low: 55%; Intermediate: 34%; Alto: 15%

④

Overall survival (OS) and progression-free survival (PFS) in Diffuse Large B-Cell Lymphoma

1-YEAR PFS

**80%**

1-YEAR OS

**95%**

2-YEAR PFS

**80%**

2-YEAR OS

**90%**

3,4,5-YEAR PFS

**77%**

3,4,5-YEAR OS

**90%**

②

Overall survival (OS) and progression-free survival (PFS) in Hodgkin Lymphoma

1-YEAR PFS

**96%**

1-YEAR OS

**100%**

2-YEAR PFS

**84%**

2-YEAR OS

**100%**

3,4,5-YEAR PFS

**84%**

3,4,5-YEAR OS

**100%**

③

### Multiple myeloma

5-year overall survival

**75%**

# Hematology

RESULTS 2023 ⊕ Better than reference ⊖ Equal to reference ⊖ Worse than reference

## Bone Marrow Transplant

APPROPRIATE CARE COST & COMPLICATIONS SURVIVAL & PROMS PATIENT EXPERIENCE/SATISFACTION

Compliance rate initiating antibiotics within 60 min in febrile neutropenia in BMT patients

**89%** ⊕

The higher, the better

REFERENCE 85%

• BMT Historical Data Series

5

Percentage of incidence of graft-versus-host disease (GVHD) II - IV / Allogeneic

**38%** ⊕

The lower, the better

REFERENCE 50%

• The EBMT Handbook Chapter 43

6

Percentage of occurrence of obstructive liver disease after BMT

**0,07%** ⊕

The lower, the better

REFERENCE 13%

• Transplant. 2010;16:157-68.

7

Mortality not related to relapse in BMT

**19%** ⊕

The lower, the better

REFERENCE 21%

• BMT Historical Data Series

8

Overall survival in BMT - Adults 2019 to 2023 - 1<sup>st</sup> Autologous

1 YEAR  
**95%** ⊕

The higher, the better

REFERENCE 86%

• ABTO 2023

9

Overall survival in BMT - Adults - 2019 to 2023 - 1<sup>st</sup> Allogeneic

1 YEAR  
**71%**

RELATED  
**77%** ⊕

UNRELATED  
**65%** ⊕

REF. RELATED 64%

REF. UNRELATED 61%

• ABTO 2023

The higher, the better

10

Overall survival in BMT - Pediatrics - 2019 to 2023 - 1<sup>st</sup> Allogeneic

1 YEAR  
**80%**

RELATED  
**86%** ⊕

UNRELATED  
**78%** ⊕

REF. RELATED 64%

REF. UNRELATED 61%

• ABTO 2023

The higher, the better

11

Overall survival in BMT - Pediatrics - 2019 to 2023 - 1<sup>st</sup> Autologous

1 YEAR  
**100%** ⊕

The higher, the better

REFERENCE 86%

• ABTO 2023

12

## HEMATOLOGY

### WHAT HAS BEEN DONE TO IMPROVE

- ▶ Discuss all new complex cases in a weekly meeting with hematologists, transplant specialists, clinical laboratory, pathology, imaging and blood bank to ensure the best diagnosis and treatment for patients.
- ▶ Manage specific indicators, process indicators, and outcome indicators.
- ▶ Hold quarterly critical analysis meetings with representatives from the areas of Hematopoietic Stem Cell Transplantation (HSCT) and cell therapy.
- ▶ Discuss the critical analysis of deaths prior to D+100 related to transplant.
- ▶ Review the operational specialty documentation.
- ▶ Review institutional protocols.
- ▶ Periodically audit care processes.
- ▶ Manage the cases of patients undergoing Immune Effector Cell Therapy (ICT).
- ▶ Train support areas, including intensive care, regarding the specificities of the area.
- ▶ Periodically train the medical and multiprofessional team and ensure their participation in scientific events in the area.
- ▶ Reaccredit FACT for the areas of HSCT and accreditation for ICT.



# Understand the Hematology indicators

APPROPRIATE CARE COST & COMPLICATIONS SURVIVAL & PROMS PATIENT EXPERIENCE/SATISFACTION

1 2 3 4

## Event-free survival rate

Indicates the percentage of survival free of events and complications in each period after treatment.

5

## Compliance rate in starting antibiotics within 60 minutes in febrile neutropenia in patients undergoing bone marrow transplantation

Indicates the percentage of patients with febrile neutropenia undergoing BMT who started antibiotic treatment within 60 days after the onset of fever – a procedure associated with better case outcomes. The higher the percentage of the indicator, the more cases followed the institutional protocol.

6

## Incidence Percentage of Graft-versus-Host Disease (aGVHD) II - IV / Allogeneic

Shows the percentage of new cases with this complication after transplantation.

7

## Percentage of occurrence of obstructive liver disease after BMT.

Shows the percentage of new cases with this complication after transplantation.

8

**Mortality rate not related to recurrence** This indicator shows the death rate where the cause of mortality cannot be attributed to recurrence of the primary disease.

9

## Probability of overall survival after Hematopoietic Stem Cell Transplantation (HSCT)

Expresses the chance of overall survival of patients undergoing HSCT.

10 11 12

## Event-free survival rate

Indicates the percentage of survival free of events and complications in each period after treatment.

# Surgical Network



**IN 2009**, the Surgical Network, originally known as the Integrated Surgery Program, was established with the main objective of involving the Clinical Staff in the development of strategic surgical specialties, in the creation and management of protocols and quality indicators, in the proposal and implementation of improvements, in the adoption of technologies and promoting teaching, research and social responsibility.

In 2021, the program expanded its scope and became known as Einstein Surgery Network, or simply Einstein Surgery. It is an area designed to, along with the Surgical Patients area, integrate all the Einstein Health System surgical units, focusing on the pillars of Operational Excellence, Safe Surgery and Strategic Surgical Specialties.

The program develops, through the Safe Surgery Committee, unified protocols and management matrix. The goal is to develop an Integrated Safe Surgery Dashboard and achieve international accreditation from the American College of Surgeons.

The Robotic Surgery program, a pioneer in the country and launched in 2008, boosted Strategic Surgical Specialties with a focus on High Complexity, Oncology and Precision Medicine. Minimally invasive robotic surgery, used for several pathologies, can benefit patients by reducing post-operative

pain and discomfort, minimizing blood loss during the procedure and reducing the length of hospital stay, allowing a faster return to daily activities.

Einstein then became an Official Intuitive Certification Center in 2019, receiving the first Da Vinci Si platform dedicated to training, and brought to Brazil in 2021 the Official Intuitive Certification model in Thoracic Robotic Surgery, previously only available in the United States. With the launch of the postgraduate course in Robotic Surgery in Urology and the first Certification in Thoracic Robotic Surgery in Latin America, the program contributed significantly to the advancement of these specialties in the region.

To complement its technology infrastructure and strengthen its therapeutic arsenal, Einstein received the Hugo RAS in 2023, becoming the first hospital in Brazil to incorporate and use the new robotic surgery system from Medtronic.

The Einstein Center of Excellence in Robotic Surgery was essential in ensuring recognition as the Epicenter by Intuitive Surgical® of Robotic Surgery in Urology in Latin America in 2016. The next goal is to establish the Einstein Center of Excellence in Robotic Surgery as an international reference as an Academic Center, disclosing the best practices of our institution.



VOLUME - MORUMBI  
UNIT 2023

**39,595**

all surgical techniques

**1,872**

robotic surgeries

SCIENTIFIC PRODUCTION

**147**

Publications

★★★★★

99 in journal with impact  
factor > 1

TEACHING

**223**

Post graduate  
students  
*lato sensu*

8 programs

**26**

Medical  
residents

3 programs

**12**

Students in  
Medical  
Enhancement  
Program

6 programs

**1**

Student in  
Multidisciplinary  
Enhancement  
Program

1 program

# Surgical network

RESULTS 2023 ⊕ Better than reference ⊖ Equal to reference ⊖ Worse than reference

APPROPRIATE CARE COST & COMPLICATIONS SURVIVAL & PROMS PATIENT EXPERIENCE/SATISFACTION

Conversion rate of robotic technique in General Surgery

0,70%<sup>⊖</sup>

The lower, the better

①

REFERENCE 2,2%

• Historical Data Series 2022 Morumbi

Conversion rate of robotic technique in Thoracic Surgery

1,2%<sup>⊖</sup>

The lower, the better

②

REFERENCE 0,56%

• The Annals of Thoracic Surgery

Conversion rate of robotic technique – Gynecology and Obstetrics

0%<sup>⊖</sup>

The lower, the better

REFERENCE 0%

• Historical Data Series 2022 Morumbi

③

Conversion rate of robotic technique – Urology

0%<sup>⊕</sup>

The lower, the better

④

REFERENCE 0,12%

• Historical Data Series 2022 Morumbi

Adherence rate to VTE prophylaxis in surgical patients

83%<sup>⊖</sup>

The higher, the better

⑤

REFERENCE >90%

• Institutional Goal

30-Day unplanned readmission rate of patients who underwent robotic surgery – General Surgery

2,6%<sup>⊕</sup>

The lower, the better

⑥

REFERENCE 3,3%

• Historical Data Series 2022 Morumbi

30-Day unplanned readmission rate of patients who underwent robotic surgery - Thoracic Surgery

4,2%<sup>⊕</sup>

The lower, the better

⑦

REFERENCE 6,5%

• The Annals of Thoracic Surgery

30-Day unplanned readmission rate of patients who underwent robotic surgery – Gynecology and Obstetrics

3,6%<sup>⊖</sup>

The lower, the better

⑧

REFERENCE 3,6%

• Historical Data Series 2022 Morumbi

# Surgical network

RESULTS 2023 ⊕ Better than reference ⊖ Equal to reference ⊖ Worse than reference

APPROPRIATE CARE COST & COMPLICATIONS SURVIVAL & PROMS PATIENT EXPERIENCE/SATISFACTION

30-Day unplanned readmission rate of patients who underwent robotic surgery – Urology

**1,8%** ⊕

The lower, the better

9

REFERENCE 2,1%

• Historical Data Series 2022 Morumbi

30-Day reoperation rate of patients who underwent robotic surgery – General Surgery

**2,6%** ⊕

The lower, the better

10

REFERENCE 4,0%

• J Surg Oncol. 2023;128:385–392.

30-Day reoperation rate of patients who underwent robotic surgery – Thoracic Surgery

**3,0%** ⊖

The lower, the better

11

REFERENCE 1,7%

• The Annals of Thoracic Surgery

30-Day reoperation rate of patients who underwent robotic surgery – Gynecology and Obstetrics

**1,2%** ⊕

The lower, the better

12

REFERENCE 4,0%

• J Surg Oncol. 2023;128:385–392.

30-Day reoperation rate of patients who underwent robotic surgery – Urology

**1,6%** ⊕

The lower, the better

13

REFERENCE 4,0%

• J Surg Oncol. 2023;128:385–392.

Average length of stay for patients who underwent robotic surgery – General Surgery

**4** ⊖

The lower, the better

14

REFERENCE 3,3

• Historical Data Series 2022 Morumbi

Average length of stay for patients who underwent robotic surgery – Thoracic Surgery

**5,2** ⊖

The lower, the better

15

REFERENCE 4,7

• The Annals of Thoracic Surgery

Average length of stay for patients who underwent robotic surgery – Gynecology and Obstetrics

**1,9** ⊖

The lower, the better

16

REFERENCE 1,9

• Historical Data Series 2022 Morumbi

Average length of stay for patients who underwent robotic surgery – Urology

**2,3** ⊕

The lower, the better

17

REFERENCE 2,6

• Historical Data Series 2022 Morumbi

Average NPS over the past 3 years – Patients who underwent robotic surgery.

**89** ⊕

The higher, the better

18

REFERENCE >75

• NPS: Excellent

## SURGICAL NETWORK

### WHAT HAS BEEN DONE TO IMPROVE

- ▶ Develop evidence-based protocols aimed at standardizing surgical care and achieving better results.
- ▶ Analyze all cases of readmission and reoperation by specialist surgeons to identify improvements in the surgical process. Implement feedback for physicians.
- ▶ Use HCRM (Healthcare Crisis Resource Management) in robotic surgery to assess technical and non-technical skills.
- ▶ Implement the accelerated recovery protocol in some specialties, for faster and safer patient recovery, by providing support before, during and after surgery.
- ▶ Pursue international certifications focused on quality and safety in surgical patient care, such as those provided by the American College of Surgeons.
- ▶ Segment indicators by clinical condition to facilitate goals with greater comparability.



# Understand the Surgical network indicators

APPROPRIATE CARE COST & COMPLICATIONS SURVIVAL & PROMS PATIENT EXPERIENCE/SATISFACTION

1 2 3 4

## Robotic technique conversion rate

Percentage of patients with indication for surgery using robotic technique who required conversion to video laparoscopy or laparotomy. Monitoring this indicator allows us to assess the impact of the measures used to prevent complications and the need for conversion.

5

## Adherence rate to venous thromboembolism (VTE) prophylaxis in surgical patients

Percentage of patients who underwent surgical procedures and with indication for VTE prophylaxis who received appropriate preventive measures.

6 7 8 9

## 30-day unplanned readmission rate of patients undergoing robotic surgery

Percentage of patients readmitted to the hospital without early planning in the first 30 days following discharge. The program monitors patients who underwent robotic surgery during this period and cases of unexpected readmission are evaluated by specialists in the area as a way of identifying opportunities for improvement.

10 11 12 13

## 30-day reoperation rate of patients who underwent robotic surgery

Percentage of patients who underwent robotic surgery and need to undergo reoperation. Monitoring this indicator allows us to assess the impact of the measures used to prevent complications and the need for reoperation.

14 15 16 17

## Average length of stay for patients who underwent robotic surgery

It measures the average length of hospitalization of patients who underwent robotic surgery.

18

## Average NPS for the last 3 years

Satisfaction is a measurable result of the patient's perception of the service and care received from professionals and the quality of the services provided during hospitalization. It is measured by means of the NPS (Net Promoter Score), a metric of customer loyalty and satisfaction with the company. The calculation is made using the following formula:  $NPS = (Promoters - Detractors) / Total \text{ number of respondents}$ .

The parameter scores are:

**Excellent NPS**, from 75 to 100

**Very good NPS**, from 50 to 74

**Reasonable NPS**, from 0 to 49

# Anesthesiology



**THE ANESTHESIOLOGY DEPARTMENT AT HOSPITAL ISRAELITA ALBERT EINSTEIN** stands out for its excellence in perioperative care, offering patients safety, comfort and optimized results. We are pioneers in using the most modern technologies in anesthesia equipment, ensuring greater precision and control throughout the procedure.

The team of anesthesiologists is composed of highly skilled and experienced professionals, both independent and contracted, who collaborate to provide the highest level of care for patients. Through data-driven management, it uses data and indicators to monitor service performance, identify opportunities for improvement and make strategic decisions that directly impact the quality of care.

The commitment to education and research is also a distinguishing feature of our service. The medical staff actively participates in training new professionals through the medical residency program in anesthesiology and professional development courses. In addition, the department promotes innovative research that contributes to advancements in anesthesiology and the improvement of patients' quality of life.

## OUR UNIQUE STRENGTHS EXCELLENCE WITH INNOVATIVE TECHNOLOGY AND MANAGEMENT

► **Cutting-edge technology:**

State-of-the-art anesthesia equipment, such as target-controlled infusion pumps, multiparameter monitors, and advanced pulmonary ventilators, ensures greater safety and precision during anesthesia.

► **Data-driven management:**

The use of data and indicators allows for continuous evaluation of the assistance's performance, identification of areas for improvement, and strategic decision-making to optimize the quality of care.

► **Independent and contracted clinical staff:** A highly qualified and experienced team, made up of professionals with different areas of expertise, ensures personalized and individualized care for each patient.

► **Education and research:**

Training new professionals and developing innovative research to advance anesthesiology.



# Anesthesiology

RESULTS 2023 ⊕ Better than reference ⊖ Equal to reference ⊖ Worse than reference

## VOLUME

42,186

Anesthetic Procedures  
in the Surgical Room

27,351

Anesthetic Procedures  
in Diagnostic Medicine

## REGISTERED PHYSICIANS

1,027

Anesthesiologists

## TEACHING

36

Alunos na  
Pós-graduação  
*lato sensu*

2 programs

11

Medical  
residents

1

Student in Medical  
enhancement  
Program (Regional  
Block)

## SCIENTIFIC PRODUCTION

13

Publications

★★★★★  
10 in journals with  
impact factor > 1

APPROPRIATE CARE COST & COMPLICATIONS SURVIVAL & PROMS PATIENT EXPERIENCE/SATISFACTION

Acute myocardial infarction  
during or within 48 hours  
after anesthetic treatment

0,004%<sup>⊕</sup>

The lower, the better

①

REFERENCE 0,82%

Am J Med. 2022 February ; 135(2):  
202-210.e3.

Incidence of adverse events in  
the post-anesthesia recovery

0,99%<sup>⊕</sup>

The lower, the better

②

REFERENCE < 1,5%

• Institutional Goal

Incidence of postoperative  
nausea and vomiting in the  
post-anesthesia recovery

0,56%<sup>⊕</sup>

The lower, the better

③

REFERENCE < 3%

• Institutional Goal

Documented pre-anesthesia assessment of the elective  
surgical patient by an anesthesiologist before surgery

96%<sup>⊕</sup>

The higher, the better

④

REFERENCE >95%

• Institutional Goal

Rate of patients using medication for  
moderate to severe pain control in  
the post-anesthesia recovery

2,4%<sup>⊕</sup>

The lower, the better

⑤

REFERENCE 5,5%

• Rev Esp Anesthesiol Reanim. 2017;64(7):375-383

Temperature below 35.5°C on arrival at the post-anesthesia recovery area

**24%**<sup>⊕</sup>

The lower, the better

REFERENCE <30%

• Institutional Goal

6

Mortality rate within 48 hours after a procedure involving anesthesia

**0,06%**<sup>⊕</sup>

The lower, the better

REFERENCE 0,08%

• Rate in developed countries. Lancet 2012;380:1075-81

7

ANESTESIOLOGY

**WHAT HAS BEEN DONE TO IMPROVE**

- ▶ Implement pre-anesthesia assessment protocols, healthcare professional education, and monitoring of compliance rates.
- ▶ Review the postoperative hyperglycemia protocol, monitor compliance rates for intraoperative hyperglycemia correction, and provide training and feedback to professionals.
- ▶ Analyze the causes of all deaths within 48 hours after a procedure involving anesthesia, implement safety measures and constantly monitor this rate.

## Understand the Anesthesiology indicators

**1 Acute myocardial infarction during or within 48 hours after anesthesia treatment.**

It expresses the percentage of patients who developed acute myocardial infarction during the anesthetic procedure or up to 48 hours after the procedure.

**2 Incidence of adverse events in Post-Anesthesia Care Unit (PACU)**

Percentage of patients with adverse events in the PACU, the time when the transition occurs between the condition of anesthetized patients receiving intensive care, and when several events can occur.

**3 Incidence of postoperative nausea and vomiting in the post-anesthesia recovery (PAR)**

Percentage of patients with nausea and vomiting during the post-anesthesia recovery phase.

**4 Documented pre-anesthesia assessment of the elective surgical patient by an anesthesiologist before surgery.**

Percentage of elective surgical patients who received documented pre-anesthetic assessment by an anesthesiologist before surgery.

**5 Rate of patients using medication to control severe and moderate pain in the PACU**

To prevent measurement bias, we obtained our case series based on the administration of specific medications for the treatment of moderate or severe pain in the PACU room, increasing the sensitivity of the information.

**6 Temperature below 35.5°C upon arrival in the post-anesthesia recovery (PAR) room**

Percentage of patients diagnosed with hypothermia upon arrival at the PACU. This information contributes to early treatment, improving postoperative outcomes and the patient experience.

**7 Mortality rate within 48 hours after a procedure involving anesthesia**

Percentage of patients who die within 48 hours following a procedure involving anesthesia.

# Orthopedics



## EINSTEIN ORTHOPEDICS

is recognized for its excellence in orthopedic care, incorporating innovative practices, advanced technologies and a constant commitment to quality, safety and patient well-being.

Its primary objective is to take care of orthopedic patients through the implementation of protocols, the monitoring of performance indicators, and the development of strategies aimed at continuous improvement.

A specialized team coordinates orthopedic care in collaboration with several departments, including Diagnostic Medicine, Ambulatory Medicine, Education, and Research.

The protocols managed by Einstein Orthopedics are notable for ensuring patient safety, quality, and a good patient follow-up. Hip Arthroplasty (THA) and Knee Arthroplasty (TKA) contribute

to improving care indicators more favorable clinical outcomes and reducing associated. The Einstein Home Care program is an additional care for patients undergoing these surgeries: it helps to reduce the average length of hospital stay while maintaining quality standards comparable to the best hospitals in the world.

The Managed Protocols for Spine Surgery, Anterior Cruciate Ligament Reconstruction and Shoulder Surgery, in turn, offer complete and individualized care. And the Second Opinion Program is a reference in assessing the need for spine surgeries.

Finally, the introduction of robotic surgery at Einstein Orthopedics allows surgeries, especially THA and TKA, to be carried out with greater precision, providing faster recovery. This reflects our commitment to innovation and the exceptional care for patients.

## ORTHOPEDICS

### Recognition



RANKING  
NEWSWEEK 2024

1<sup>st</sup> in Latin America  
26<sup>th</sup> in the world



VOLUME

**71,415**

Consultations

**7,854**

Orthopedic surgeries

- Spine Surgery 761
- Hip and Knee Arthroplasty 691
- Anterior Cruciate Ligament Reconstruction 340
- Shoulder Arthroscopy 459
- Foot and Ankle 135

REGISTERED PHYSICIANS

**1,018**

Orthopedic surgeons

TEACHING

**90**

Post graduate students  
*lato sensu*

5 programs

**8**

Students in  
Medical  
Enhancement  
Program

**6**

Students in  
Multidisciplinary  
Enhancement

**9**

Medical  
Residents

SCIENTIFIC PRODUCTION

**113**

Publications

★★★★★  
27 in journals with  
impact factor > 1

# Orthopedics

RESULTS 2023 ⊕ Better than reference ⊖ Equal to reference ⊖ Worse than reference



## Spinal Arthrodesis and Decompression Surgeries

APPROPRIATE CARE COST & COMPLICATIONS SURVIVAL & PROMS PATIENT EXPERIENCE/SATISFACTION

Rate of Administration of antibiotics within 60 minutes before the surgical incision

REFERENCE >95%

• Institutional Goal

94%<sup>⊖</sup>

The higher, the better

1

Average length of stay from procedure to discharge, in days

1,9<sup>⊕</sup>

The lower, the better

REFERENCE 3 DAYS

• J Neurosurg Spine 29, 286-291, (2018)

2

30-day Readmission rate

3,8%<sup>⊕</sup>

The lower, the better

REFERENCE 8,1%

• Neurosurgery 80(3), 355-36 (2017)

3

Surgical site infection rate

0,60%<sup>⊕</sup>

The lower, the better

REFERENCE 3%

• J Bone Joint Surg Am. 94(4), 335-42, (2012)

4

# Spinal Arthrodesis and Decompression Surgeries

APPROPRIATE CARE COST & COMPLICATIONS SURVIVAL & PROMS PATIENT EXPERIENCE/SATISFACTION

Complication rate

**2,4%**<sup>⊖</sup>

The lower, the better

5

REFERENCE 1%

• Hospital for Special Surgery

Reoperation rate within 6 months

**6,7%**<sup>⊕</sup>

The lower, the better

6

REFERENCE 10%

• Neurosurgery 80(3):355-36, 2017

Percentage of patients with improved functionality one year after lumbar spine surgery, as measured by the Oswestry Disability Index (ODI)

**87%**

The higher, the better

7

REFERENCE

• Improvement was defined as  $\geq 10$  points in the ODI score from preoperative to one year after discharge. Clinical Orthopedics & Related Research, vol. 476, no. 10, 2018, pp. 2027-2036.

Percentage of patients with improved functionality one year after cervical spine surgery, as measured by the Neck Disability Index (NDI)

**66%**

The higher, the better

8

REFERENCE

• Improvement was defined as  $\geq 10$  points in the NDI score from preoperative to one year after discharge. Clinical Orthopedics & Related Research, vol. 476, no. 10, 2018, pp. 2027-2036

Percentage of patients reporting being satisfied or very satisfied with the results one year after lumbar spine surgery

**83%**

The higher, the better

9

Percentage of patients reporting being satisfied or very satisfied with the results one year after cervical spine surgery

**97%**

The higher, the better

10

Average NPS over the past three years for patients who underwent spinal decompression procedures

**82**<sup>⊕</sup>

The higher, the better

11

REFERENCE > 75

• NPS: Excellent



# Hip and Knee Arthroplasty

APPROPRIATE CARE COST & COMPLICATIONS SURVIVAL & PROMS PATIENT EXPERIENCE/SATISFACTION

Antibiotic administration rate within 60 minutes before surgical incision (THA/TKA)

**94%** <sup>⊖</sup>

The higher, the better

REFERENCE >95%

• Institutional Goal

12

Average length of stay from procedure to discharge (THA/TKA)

**3 days** <sup>⊖</sup>

The more, the better

REFERENCE 3 days

• ANAHP

13

30-day readmission rate (THA/TKA)

**0,70%** <sup>⊕</sup>

The lower, the better

REFERENCE 3%

• Hospital for Special Surgery

14

Surgical site infection rate (THA)

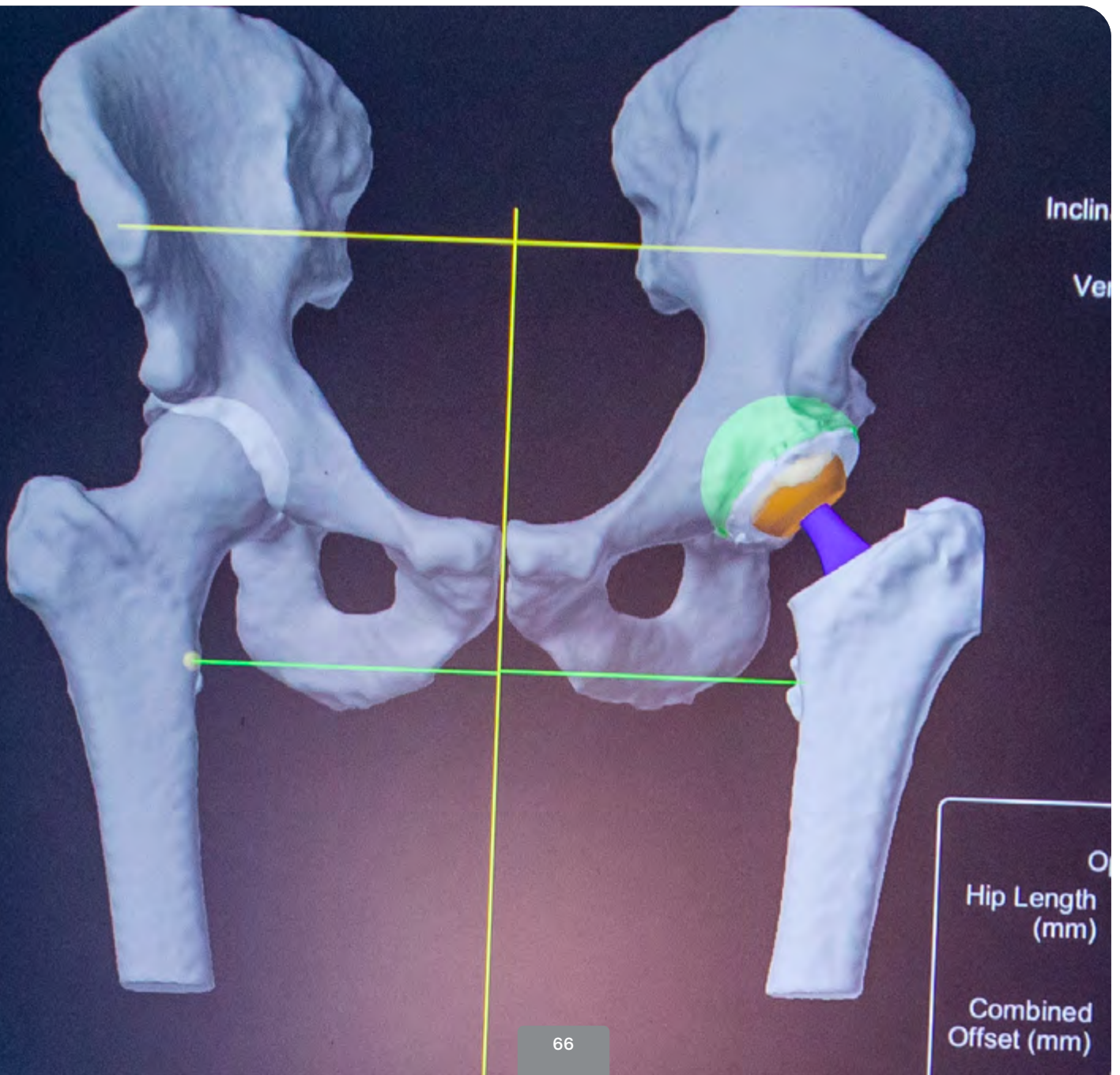
**1,8%** <sup>⊖</sup>

The lower, the better

REFERENCE 0,64%

• ANAHP

15



# Hip and Knee Arthroplasty

APPROPRIATE CARE COST & COMPLICATIONS SURVIVAL & PROMS PATIENT EXPERIENCE/SATISFACTION

Surgical site infection rate (TKA)

**0,40%** <sup>⊕</sup>

The lower, the better

16

REFERENCE 0,47%

• ANAHP

Complication rate (THA/TKA)

**2%** <sup>⊖</sup>

The lower, the better

17

REFERENCE 2%

• Hospital for Special Surgery

Reoperation rate within 6 months (THA)

**2,2%** <sup>⊖</sup>

The lower, the better

18

REFERENCE 2%

• ACORN

Reoperation rate within 6 months (TKA)

**2,5%** <sup>⊖</sup>

The lower, the better

19

REFERENCE 2,5%

• ACORN

Percentage of patients with improved hip function one year after surgery, as measured by the HOOS-PS

**79%** The higher, the better

20

REFERENCE

• Improvement was defined as  $\geq 10$  points in the HOOS-PS score from preoperative to one year after discharge. Osteoarthritis Cartilage. May 16, (5),551-9,(2008).

Percentage of patients with improved knee function one year after surgery, as measured by the KOOS-PS

**64%** The higher, the better

21

REFERENCE

• Improvement was defined as  $\geq 10$  points in the HOOS-PS score from preoperative to one year after discharge. Osteoarthritis Cartilage. May 16, (5),551-9,(2008).

Percentage of patients reporting being 'satisfied' or very satisfied with the results one year after hip arthroplasty

**96%**

The higher, the better

22

Percentage of patients reporting being 'satisfied' or very satisfied with the results one year after knee arthroplasty

**94%**

The higher, the better

23

Average NPS over the past three years for patients who underwent hip arthroplasty

**100** <sup>⊕</sup>

The higher, the better

24

REFERENCE > 75

• NPS: Excellent

Average NPS over the past three years for patients who underwent knee arthroplasty

**100** <sup>⊕</sup>

The higher, the better

25

REFERENCE > 75

• NPS: Excellent

# Orthopedics

RESULTS 2023 ⊕ Better than reference ⊖ Equal to reference ⊖ Worse than reference

## Anterior Cruciate Ligament (ACL) reconstruction surgery (knee)

APPROPRIATE CARE COST & COMPLICATIONS SURVIVAL & PROMS PATIENT EXPERIENCE/SATISFACTION

Antibiotic administration rate within 60 minutes before surgical incision

94%<sup>⊖</sup>

The higher, the better

REFERENCE >95%

• Institutional Goal

26

30-day readmission rate (ACL reconstruction)

0%<sup>⊕</sup>

The lower, the better

REFERENCE 0,80%

• Sports Health,2016;  
8(2):187-189

27

Surgical site infection rate  
(ACL reconstruction)

0%<sup>⊕</sup>

The lower, the better

28

Complication rate  
(ACL reconstruction)

0%<sup>⊕</sup>

The lower, the better

29

Reoperation rate within 6  
months (ACL reconstruction)

0,29%<sup>⊕</sup>

The lower, the better

30

REFERENCE 0,37%

• Sports Health.2016;8(2):187-189

REFERENCE 0,20%

• Sports Health.2016;8(2):187-189

REFERENCE 7,7%

• Sports Health.2016;8(2):187-189

Percentage of patients with  
improved knee function one  
year after surgery, as measured  
by the IKDC

71%

The higher, the better

31

Percentage of patients reporting  
being satisfied or very satisfied  
with the results one year after  
ACL reconstruction

100%

The higher, the better

32

Average NPS over  
the past three years for  
patients who underwent  
ACL reconstruction

82<sup>⊕</sup>

The higher, the better

33

REFERENCE

• Improvement was defined as  $\geq 9.6$  points in the IKDC score from preoperative to one year after discharge. JBJS Reviews 6(9), September 2018.

REFERENCE NPS > 75

• NPS: Excellent

# Orthopedics

RESULTS 2023 ⊕ Better than reference ⊖ Equal to reference ⊖ Worse than reference

## Shoulder arthroscopy

APPROPRIATE CARE COST & COMPLICATIONS SURVIVAL & PROMS PATIENT EXPERIENCE/SATISFACTION

Antibiotic administration rate within 60 minutes before surgical incision (shoulder arthroscopy)

93%<sup>⊖</sup>

The higher, the better

REFERENCE 95%

• Institutional Goal

34

30-day readmission rate (shoulder arthroscopy)

0,38%<sup>⊕</sup>

The lower, the better

REFERENCE 0,98%

• Arthroscopy. 2017 Jan;33(1):55-61

35

Surgical site infection rate (shoulder arthroscopy)

0%<sup>⊕</sup>

The lower, the better

REFERENCE 0,16%

• Arthroscopy. 2017 Jan;33(1):55-61

36

Complication rate (shoulder arthroscopy)

0,15%<sup>⊕</sup>

The lower, the better

REFERENCE 0,60%

• Hospital for Special Surgery

37

Reoperation rate within 6 months (shoulder arthroscopy)

0,77%<sup>⊕</sup>

The lower, the better

REFERENCE 6%

• Arthroscopy. 2017 Jan;33(1):55-61

38

Percentage of patients with improved shoulder function one year after surgery, as measured by the QuickDASH

87%

The higher, the better

REFERENCE

• Improvement was defined as  $\geq 12.8$  points in the QuickDASH score from preoperative to one year after discharge. Journal of Orthopaedic & Sports Physical Therapy 2014; 44(1): 30-39

39

Percentage of patients reporting being satisfied or very satisfied with the results one year after shoulder arthroscopy

92%

The higher, the better

40

Average NPS over the past three years for patients who underwent shoulder arthroscopy

83<sup>⊕</sup>

The higher, the better

REFERENCE >75

• NPS: Excellent

41



ORTHOPEDICS

## WHAT HAS BEEN DONE TO IMPROVE

- ▶ Maintain ongoing communication with the clinical team to monitor patient treatment outcomes and identify opportunities for improving protocols
- ▶ Implement managed protocol actions and provide educational materials to patients to promote best clinical practices.
- ▶ Incorporate innovative practices and advanced technologies to enhance quality, safety, and patient well-being.
- ▶ Manage clinical and administrative activities throughout the entire orthopedic network.
- ▶ Develop orthopedic education and training across various specialties and levels of education: technical training, medical and nursing undergraduate programs, medical residency, fellowship programs, and both professional and academic postgraduate courses.
- ▶ Conduct research projects linked to funding sources and PROADI-SUS.

# Understand the Orthopedics indicators

APPROPRIATE CARE COST & COMPLICATIONS SURVIVAL & PROMS PATIENT EXPERIENCE/SATISFACTION

1 12 26 34

## Antibiotic administration rate within 60 minutes before surgical incision in orthopedic procedures

Percentage of patients who received antibiotics within 60 minutes before surgical incision, a measure established to prevent surgical site infection. Administration of medication within this interval results in a lower rate of postoperative infection.

2 13

## Average length of stay from procedure to discharge in orthopedic procedures

Average length of hospital stays of patients who underwent orthopedic procedures, in days. This is a classic indicator that is related to good clinical practices. Shorter length of stay reflects more efficient management of hospital beds.

3 14 27 35

## 30-Day unplanned readmission rate for Orthopedic procedures

The percentage of patients readmitted to the hospital within 30 days after discharge due to complications related to the procedure. Early hospital readmission is associated with increased morbidity, mortality, and higher healthcare costs.

4 15 16 28 36

## Surgical site infection rate in Orthopedic procedures

The percentage of surgical site infections in clean surgeries. This metric allows the monitoring of the impact of actions taken to reduce infection risks and planning appropriate antibiotic prophylaxis measures to ensure greater patient safety during hospitalization.

5 17 29 37

## Complication rate in Orthopedic procedures

The percentage of patients experiencing unexpected complications after surgical procedures, occurring during the same hospital stay. These complications may include hypovolemic shock, pulmonary embolism, venous thrombosis, bleeding, among others, which can hinder the patient's recovery within the expected timeframe. The occurrence of post-surgical complications increases the risk of reoperation, prolongs hospital stay, and raises morbidity and mortality rates.

6 18 19 30 38

## Reoperation rate within six months after discharge in Orthopedic procedures

Percentage of patients who need to undergo reoperation within six months

after discharge from the first surgery. The increase in this rate is associated with greater morbidity, mortality and increased healthcare costs.

7

## Percentage of patients with functional improvement according to the Oswestry Disability Index (ODI) after lumbar spine decompression and fusion surgery

The Oswestry Disability Index (ODI) is a validated tool for measuring the loss of quality of life and functional disability due to lower back pain. Its score ranges from 0 to 100, with higher scores reflecting a greater level of dysfunction. The improvement rate is determined by comparing questionnaires completed before the surgery and one year after discharge. Spine 32(4): p. 481-486, February 15, 2007

8

## Percentage of patients with functional improvement according to the Neck Disability Index (NDI) after cervical spine decompression and fusion surgery

The Neck Disability Index (NDI) is a validated tool for assessing cervical spine function. Its score ranges from 0 (no disability) to 50 (total disability). The improvement rate is determined by comparing questionnaires completed before the surgery and one year after discharge. Spine (Phila Pa 1976). 2006 Jun 15;31(14):1621-7.

20

## Percentage of patients with functional improvement after hip arthroplasty (HOOS-PS) one-year after surgery

The Hip Disability and Osteoarthritis Outcome Score - Physical Function Shortform (HOOS-PS) is a tool to assess hip physical function, with scores ranging from 0 to 100 (higher scores indicate better hip function). The improvement rate is determined by comparing questionnaires completed before the surgery and one year after discharge. Rev Bras Ortop 2019; 54:282-287

21

## Percentage of patients with functional improvement after knee arthroplasty (KOOS-PS) one-year after surgery

The Knee Injury and Osteoarthritis Outcome Score - Physical Function Shortform (KOOS-PS) is a questionnaire-based indicator that assesses knee health and physical functionality, with scores ranging from 0 to 100 (higher scores indicate better knee function). The improvement rate is determined by comparing questionnaires completed before the surgery and one year after discharge. Osteoarthritis Cartilage. 2010 Mar;18(3):372-6.

31

## Percentage of patients with improved knee function (IKDC) one year after surgery

Knee function was measured using the International Knee Documentation Committee (IKDC) instrument, which ranges from 0 to 100 points (higher scores indicate better knee function). The improvement rate is determined by comparing questionnaires completed before the surgery and one year after discharge. Am J Sports Med. 2010 Sep;38(9):1894-9.

39

## Percentage of patients with improved shoulder function (Quick DASH) one year after surgery

The Quick DASH (Quick Disabilities of the Arm, Shoulder and Hand) is a validated tool for assessing shoulder function, with scores ranging from 0 to 100 (lower scores indicate better shoulder function). The improvement rate is determined by comparing questionnaires completed before the surgery and one year after discharge. Musculoskelet Sci Pract. 2020 Aug; 48:102163.

9 10 22 23 32 40

## Patient satisfaction with treatment outcomes in Orthopedic procedures

Patient satisfaction at Einstein is measured by the Health Care Assessment Center through an interview conducted after hospital discharge. This interview includes a question about the patient's level of satisfaction with the treatment outcomes. Responses range from "very satisfied" to "very dissatisfied." In this report, we present the percentage of responses indicating "satisfied" and "very satisfied."

11 24 25 33 41

## Average NPS over the last three years

Satisfaction is a measurable outcome of the patient's perception of the care and service received from professionals during hospitalization. It is assessed using the Net Promoter Score (NPS), a metric of customer loyalty and satisfaction. The calculation is done using the following formula:  $NPS = (Promoters - Detractors) / Total\ Number\ of\ Respondents$ . The parameter scores are:

**Excellent** NPS: between 75 and 100

**Very Good** NPS: between 50 and 74

**Reasonable** NPS: between 0 and 49

# Transplants



The **EINSTEIN TRANSPLANT PROGRAM** aims to deliver complete care for patients in need of organ transplants, covering every aspect from initial evaluation to surgery and post-operative support, with the expertise of a specialized multidisciplinary team. The Program runs in both the public sector, via PROADI-SUS, and the private sector, ensuring the best survival rates in transplants across Brazil. The institution is a vital contributor to the Ministry of Health and the National Transplant System.

Through an agreement established with the Ministry of Health since 2002, the Program has become one of the main solid organ transplant centers in the country. Over the last 20 years, more than 4,500 transplants have been performed. In just 2023, there were 162 solid organ transplants, with 81.5% of them conducted by the PROADI-SUS Program. The program is

constantly integrating new technologies and advances research in both clinical and management fields, performing highly complex transplants unique to Brazil, including double heart-lung, heart-liver, and heart-kidney transplants, as well as kidney transplants for patients with hypersensitivity or ABO incompatibility. The program also plays a crucial role in training over 6,000 professionals in organ procurement, donation, and transplantation.

It is the only program in Latin America that performs cardiopulmonary transplants and the second largest in heart, lung, and liver transplants in the State of São Paulo. The Kidney Transplant Program is the national leader in handling ABO blood type incompatibility, achieving the highest number of successful cases in Brazil, and is a pioneer in the systematic use of renal perfusion machines for kidney transplants.



# Transplants

RESULTS 2023 ⊕ Better than reference ⊖ Equal to reference ⊖ Worse than reference

63

Liver  
Transplants  
PROADI-SUS 56  
PRIVADO 7

55

Kidney  
Transplants  
PROADI-SUS 42  
PRIVADO 13

31

Transplants  
Cardíacos  
PROADI-SUS 22  
PRIVADO 9

13

Heart  
Transplants  
PROADI-SUS 12  
PRIVADO 1

TEACHING

2

Students in  
medical enhancement  
Transplant and heart failure  
Lung transplant

2 programs

SCIENTIFIC PRODUCTION

15

Publications

★★★★★  
14 in journals with impact  
factor > 1

82%

of the transplants  
were performed  
through SUS

## Liver, heart, kidney and lung transplants

APPROPRIATE CARE COST & COMPLICATIONS SURVIVAL & PROMS PATIENT EXPERIENCE/SATISFACTION

Improvement in quality of life 6 months after liver  
transplant (2002-2023)

79%

The higher, the better

①

Percentage of patients with improved quality of life  
after surgery (utility >0)

Improvement in quality of life 6 months after heart  
transplant (2002-2023)

97%

The higher, the better

②

Percentage of patients with improved quality of life  
after surgery (utility >0)

Improvement in quality of life 6 months after kidney  
transplant (2002-2023)

73%

The higher, the better

③

Percentage of patients with improved quality of life  
after surgery (utility >0)

Improvement in quality of life 6 months after lung  
transplant (2002-2023)

89%<sup>⊕</sup>

The higher, the better

④

Percentage of patients with improved quality of life  
after surgery (utility >0)

# Transplants

RESULTS 2023 ⊕ Better than reference ⊖ Equal to reference ⊖ Worse than reference

APPROPRIATE CARE COST & COMPLICATIONS SURVIVAL & PROMS PATIENT EXPERIENCE/SATISFACTION

12-month survival after kidney transplant  
(deceased donor) (2002-2023)

94%<sup>⊕</sup>

The higher, the better

REFERENCE 76%

• Estado de São Paulo (2002-2023)

5

12-month survival after liver transplant (2002-2023)

94%<sup>⊕</sup>

The higher, the better

REFERENCE 73%

• Estado de São Paulo (2002-2023)

6

12-month survival after heart transplant  
(2002-2023)

86%<sup>⊕</sup>

The higher, the better

REFERENCE 69%

• Estado de São Paulo (2002-2023)

7

12-month survival after lung transplant  
(2002-2023)

76%<sup>⊕</sup>

The higher, the better

REFERENCE 66%

• Estado de São Paulo (2002-2023)

8

NPS of patients who underwent heart transplant

89<sup>⊕</sup>

The higher, the better

REFERENCE >75

• NPS: Excellent

9

NPS of patients who underwent liver transplant

100<sup>⊕</sup>

The higher, the better

REFERENCE >75

• NPS: Excellent

10

NPS of patients who underwent lung transplant

100<sup>⊕</sup>

The higher, the better

REFERENCE >75

• NPS: Excellent

11

NPS of patients who underwent kidney transplant

100<sup>⊕</sup>

The higher, the better

REFERENCE >75

• NPS: Excellent

12

A photograph of surgeons in an operating room. They are wearing blue scrubs, blue bouffant caps, and white surgical masks. They are focused on a patient, with one surgeon using a microscope. The room is brightly lit by a large overhead surgical light fixture with multiple circular lamps. The background is slightly blurred, showing other medical equipment and staff.

## TRANSPLANTS

### WHAT HAS BEEN DONE TO IMPROVE

- ▶ Provide training for transplant centers through instructional tutorials and the development of specialized courses for SUS professionals in organ donation and transplants.
- ▶ Establish fellowship programs that focus on cutting-edge research and the integration of advanced technologies. Enhance tools to manage transplant procedures.
- ▶ Implement continuous improvement projects focused on enhancing quality, safety, and operational efficiency.
- ▶ Use short- and long-term circulatory support devices as a bridge to cardiac transplants, including the use of ECMO as a bridge to lung and liver transplants for severe acute liver failure (fulminant hepatitis).

# Understand the Transplant indicators

APPROPRIATE CARE COST & COMPLICATIONS SURVIVAL & PROMS PATIENT EXPERIENCE/SATISFACTION

1 2 3 4

## Improvement in quality of life 6 months after transplantation

Percentage of patients who have an improvement in quality of life 6 months after surgery, compared to the preoperative period.

Quality of life for patients who underwent liver, kidney, lung, or heart transplants is assessed using the EQ-5D-3L instrument.

This tool evaluates five dimensions—mobility, self-care, usual activities, pain/discomfort, and anxiety/depression—each with three levels (no problems, moderate problems, and extreme problems). The score in each dimension ranges from -0.72 to 1.0 – the higher the score, the better the quality of life. Patients

complete a questionnaire before treatment and follow-up questionnaires after surgery.

1- The EuroQol Group (1990). EuroQol-a new facility for the measurement of health-related quality of life. Health Policy 16(3):199-208.

2- Brooks R (1996). EuroQol: the current state of play. Health Policy 37(1):53-72.

5 6 7 8

## 12-month survival rate after transplantation

Percentage of patients who remain alive 12 months post-transplant

9 10 11 12

## Average NPS over the past 3 years

Patient satisfaction is a measurable outcome reflecting the patient's perception of the care and services received from healthcare professionals during hospitalization. It is assessed using the Net Promoter Score (NPS), a metric for customer loyalty and satisfaction.

The NPS is calculated using the formula:  $NPS = (Promoters - Detractors) / Total\ number\ of\ respondents$ . The rating categories are as follows:

As notas de parâmetro são:

Excellent NPS: 75 to 100

Very Good NPS: 50 to 74

Resonable NPS: 0 to 49

# Maternity



## THE OBSTETRIC CENTER OF THE EINSTEIN MATERNITY HOSPITAL

is a reference in the sector, with a team, experience and technical capacity recognized nationally. It was reestablished in April 2020 following the expansion and renovation of its physical infrastructure, incorporating advanced equipment to facilitate a comprehensive range of obstetric procedures, including intrauterine fetal interventions, laparoscopic surgeries, and conventional surgeries.

The Maternity Hospital has highly qualified professionals in the obstetric area and specialists to deal with complications during pregnancy, in addition to the support of an adult ICU, neonatal ICU, 24-hour internal blood bank and all the services of a general hospital to ensure the safety and well-being of mother and baby.

All vaginal delivery rooms are private and equipped with cardiotocographs linked to a central monitoring system, enabling continuous safe labor monitoring by the medical and nursing teams with the support of artificial

intelligence to eliminate strict dependence on the human factor.

The Maternity Unit is part of the Parto Adequado project, (Adequate Delivery Project), launched by the ANS in 2015, which aims to reduce the high rate of cesarean sections in Brazil. The project, which also involves the Institute for Healthcare Improvement (IHI) and the Ministry of Health, aims to promote innovative childbirth care models, emphasize the value of safe vaginal births, and reduce unnecessary cesarean sections within supplementary healthcare, with a goal of achieving at least 35% vaginal births.

Family-centered care, as recommended by WHO and UNICEF, emphasizes the emotional bond between mother and baby, breastfeeding, and active participation of parents in the newborn care. The Einstein Maternity Hospital adopts this model, promoting continuous contact and the joint presence of mother and baby during hospitalization, while respecting the health conditions of the baby and the mother.

## MATERNITY

### Recognition



#### RANKING NEWSWEEK 2024

Gynecology & Obstetrics  
2<sup>nd</sup> in Latin America  
48<sup>th</sup> in the world



VOLUME

**3,623**

Total number of deliveries

NORMAL DELIVERIES 1.124  
CESAREAN SECTIONS 2.363  
FORCEPS DELIVERIES 136

REGISTERED PHYSICIANS

**1,325**

Gynecologists and obstetricians

TEACHING

**205**

Posgraduate students *lato sensu*

4 programs

**18**

Students in enhancement

4 programs

**19**

Medical residents

SCIENTIFIC PRODUCTION

**47**

Publications

★★★★★  
36 in journals with impact factor > 1

# Maternity

RESULTS 2023 ⊕ Better than reference ⊖ Equal to reference ⊖ Worse than reference

APPROPRIATE CARE COST & COMPLICATIONS SURVIVAL & PROMS PATIENT EXPERIENCE/SATISFACTION

Average length of stay (vaginal delivery + cesarean section), in days.

2,5<sup>⊖</sup>

The shorter, the better

REFERENCE 2,2

• Associação Nacional dos Hospitais Privados (ANAHP)

2

Overall rate of vaginal deliveries

35%<sup>⊕</sup>

The higher, the better

REFERENCE 23%

• Associação Nacional dos Hospitais Privados (ANAHP)

1

Post-Cesarean surgical site infection rate

0,13%<sup>⊕</sup>

The lower, the better

REFERENCE 0,33%

• Associação Nacional dos Hospitais Privados (ANAHP)

3

Rate of preventable neonatal anoxia with severe birth-related damage

0%<sup>⊕</sup>

The lower, the better

REFERENCE 0%

• Institutional Goal

4

30-Day Reoperation Rate (Vaginal Delivery + Cesarean Section)

0,63%<sup>⊖</sup>

The lower, the better

REFERENCE 0,34%

• Institutional Goal

5

Overall NPS (Governance, Nursing, Nutrition)

90<sup>⊕</sup>

The higher, the better

REFERENCE >75

• NPS: Excellent

6

## MATERNITY

### WHAT HAS BEEN DONE TO IMPROVE

- ▶ Conduct recurring clinical training.
- ▶ Consolidate the Breastfeeding Program for mothers, focusing on education and proper support. Conduct the 2023 Breastfeeding Symposium, as well as celebrate World Breastfeeding Week at the institution.

- ▶ Increase the number of nurses certified by the IBLCE (International Board of Lactation Consultant Examiners), specialized in breastfeeding consultation.
- ▶ Develop the 'Engaging to Generate Value' Project in partnership with the Institute for Healthcare Improvement (IHI), leveraging improvement science to manage and enhance the Maternity indicator outcomes regarding performance, patient experience, workload, and financial area.

- ▶ Implement daily bedside visits to ensure a hospital experience that aligns with patient expectations, with a focus on nursing, nutrition, and hygiene throughout the entire hospital stay.
- ▶ Expand service capacity by building new rooms and upgrading infrastructure, to be implemented in 2024.

# Understand the Maternity indicators

APPROPRIATE CARE COST & COMPLICATIONS SURVIVAL & PROMS PATIENT EXPERIENCE/SATISFACTION

**1**  
**Taxa de parto vaginal geral**  
**Overall rate of vaginal deliveries**  
Percentage of births conducted vaginally. This metric reflects the health system's focus on safety, as cesarean sections are essential surgeries that save lives but can place the pregnant women and babies at unnecessary health risks in both the short and long term when performed without proper medical indication. The World Health Organization estimates that cesarean sections are recommended in only 15% of births. Therefore, the closer the maternity rate is to this value, the more appropriate the obstetric care is.

**2**  
**Average Length of Stay from Delivery to Discharge**  
Average length of hospital stay for patients who underwent childbirth (whether by cesarean section or vaginal delivery). This is a classic indicator that is related to good clinical practices and shows whether the hospital bed is managed efficiently.

**3**  
**Rate of surgical site infection after cesarean section**  
Percentage of patients with surgical site infection after cesarean section, which can manifest up to 30 days after surgery and consists of an inflammatory infectious process

at the incision site, with purulent secretion, which may or may not be positive for bacterial culture. The occurrence of these infections is related to the increase in hospital admissions after cesarean section and the increase in the maternal mortality rate. Monitoring this metric allows the definition of action plans to improve care and patient safety.

**4**  
**Rate of preventable neonatal anoxia with severe birth-related damage**  
Percentage of babies born in the Maternal-Child Unit who had an Apgar score lower than 6 at the 5th minute of life and the need for ventilatory support, indicating severe preventable anoxia related to childbirth. This indicator allows monitoring the results of actions to improve childbirth care.

**5**  
**30-Day Reoperation Rate (Vaginal Delivery + Cesarean Section)**  
Rate of patients who require reoperation within 30 days after vaginal delivery or cesarean section. Allows planning of measures to prevent complications in applicable cases and to assess the impact of preventive measures employed.

**6**  
**Overall NPS (Governance, Nursing, Nutrition)**  
Satisfaction is a measurable result of the patient's perception of the care and services received from professionals and the quality of services provided during hospitalization. It is measured using the NPS (Net Promoter Score), a metric for customer loyalty and satisfaction with the organization. The calculation is done using the following formula:  $NPS = (Promoters - Detractors) / Total \text{ number of respondents}$ . The parameter scores are: Excellent NPS, 75 to 100; Very Good NPS, 50 to 74; Reasonable NPS, 0 to 49. This survey is conducted in the maternity ward during the hospitalization period and assesses aspects related to governance, nursing, and nutrition in this department. Conducting the survey during the hospitalization phase ensures that improvements can be implemented immediately.

# Neonatology and Pediatrics



**EINSTEIN'S PEDIATRICS** offers specialized care for newborns, children, adolescents, and young adults, with a professional team dedicated to ensuring excellence in the care provided. Across all Pediatric services, the goal is to work in collaboration with the physicians responsible for each patient, addressing the individual needs of the child, parents, and family members present during hospitalization.

## Some of the main highlights include:

### **PEDIATRIC EMERGENCY**

**CARE:** Available 24 hours a day, 7 days a week, with pediatricians specialized in urgent and emergency care, working in collaboration with orthopedic surgeons, surgeons, and physicians from several specialties as needed.

### **NEONATAL INTENSIVE CARE UNIT (NICU):**

Provides advanced and humanized care for extremely premature and critically ill newborns, with a team trained in promoting breastfeeding and supporting families. The survival rates for premature infants are comparable to or exceed international standards.

### **PEDIATRIC INTENSIVE**

**CARE UNIT (PICU):** Certified by ISO 9002, it maintains a quality program with a multidisciplinary team trained to care for infants, children, and critically ill adolescents.

The focus is on individualized care with family involvement in the therapeutic process, aiming for the complete recovery of the child's health.

### **IMMUNIZATION**

**CLINICS:** Follow stringent quality standards, from the selection of vaccines to their administration by experienced professionals, offering all vaccines recommended by health authorities.

### **PEDIATRIC SPECIALTY**

**CLINIC:** Provides integrated and specialized care for chronic or complex conditions, with a range of multidisciplinary programs for assessment and treatment. The range of specialties include allergy and immunology, cardiology, neurology, plastic surgery, dermatology, sleep disorders, endocrinology, nutrition, among others, ensuring prompt, precise, and comprehensive care for each patient.

NEONATOLOGY AND PEDIATRICS

## Recognition



RANKING  
NEWSWEEK 2024

3<sup>rd</sup> in Latin America  
72<sup>nd</sup> in the world



<b>VOLUME</b>	<b>REGISTERED PHYSICIANS</b>
<b>24,423</b> Pediatric Consultations	<b>5,020</b> Pediatric Surgeries
	<b>1,030</b> Pediatricians

<b>TEACHING</b>		
<b>253</b> Postgraduate students <i>lato sensu</i>	<b>4</b> Multidisciplinary Enhancement Trainees	<b>19</b> Medical Residents
9 programs	1 program	

<b>SCIENTIFIC PRODUCTION</b>
<b>64</b> Publications
★★★★★ 24 in journals with impact factor > 1

# Neonatology and Pediatrics

RESULTS 2023 ⊕ Better than reference ⊖ Equal to reference ⊖ Worse than reference

## Neonatology and Pediatrics

APPROPRIATE CARE COST & COMPLICATIONS SURVIVAL & PROMS PATIENT EXPERIENCE/SATISFACTION

Exclusive breastfeeding rate at hospital discharge for newborns <1500 grams or <30 weeks' gestational age

REFERENCE 5,1%

• Vermont Oxford Network (VON)

14%

The higher, the better

1

Pediatric bloodstream infection rate (per 1,000 central venous catheters per day) - (NICU, PICU, and Pediatric Ward)

0,60%<sup>⊕</sup>

The lower, the better

REFERENCE 2,5%

• Associação Nacional dos Hospitais Privados (ANAHP) - UTI Neonatal

2

Ventilator-Associated pneumonia rate (NICU and PICU)

1,6%<sup>⊖</sup>

The lower, the better

REFERENCE 0,80%

• Associação Nacional dos Hospitais Privados (ANAHP) - UTI Neonatal

3

Percentage of premature newborns with chronic lung disease

24%<sup>⊕</sup>

The lower, the better

REFERENCE 29%

• Vermont Oxford Network (VON)

4

Late neonatal infection rate in newborns <1500 grams or < 30 weeks' gestational age

2,6%<sup>⊕</sup>

The lower, the better

REFERENCE 13%

• Vermont Oxford Network (VON)

5

Survival rate without morbidity in newborns <1500 grams or < 30 weeks' gestational age

61%<sup>⊕</sup>

The higher, the better

REFERENCE 50%

• Vermont Oxford Network (VON)

6

Neonatal mortality rate in newborns <1500 grams or < 30 weeks' gestational age

9,8%<sup>⊕</sup>

The lower, the better

REFERENCE 16%

• Vermont Oxford Network (VON)

7

Mortality or morbidity rate in newborns <1500 grams or < 30 weeks' gestational age

39%<sup>⊕</sup>

The lower, the better

REFERENCE 50%

• Vermont Oxford Network (VON)

8

Pediatric ICU mortality rate

0,23%<sup>⊕</sup>

The lower, the better

REFERENCE 1,4%

• Pediatric Index of Mortality 2 (PIM2)

9

# Understand the Neonatology and Pediatrics indicators

APPROPRIATE CARE COST & COMPLICATIONS SURVIVAL & PROMS PATIENT EXPERIENCE/SATISFACTION

## 1 Exclusive breastfeeding rate at hospital discharge for newborns <1500 grams or < 30 weeks' gestational age

Percentage of newborns weighing less than 1500 grams or born before 30 weeks' gestation who are fed exclusively with breast milk, a main goal for the overall health of premature Infants. Monitoring this metric enables actions to optimize exclusive breastfeeding at hospital discharge.

## 2 Pediatric bloodstream infection rate (per 1,000 central venous catheters per day) – (NICU, PICU, and Pediatric Ward)

Percentage of Bloodstream Infections Associated with Central Venous Catheters (CVC) in Neonatal and Pediatric Patients.

## 3 Ventilator-Associated pneumonia rate (NICU and PICU)

Percentage of Patients with Ventilator-Associated Pneumonia in Neonatal and Pediatric ICUs, among those who used invasive mechanical ventilation (IMV) for more than two days and experienced signs and symptoms indicative of this condition.

## 4 Chronic lung disease rate in newborns <1500 grams or <30 weeks' gestational age

Percentage of newborn patients with chronic lung disease, one of the most severe clinical complications observed in survivors of neonatal respiratory diseases.

## 5 Late neonatal infection rate in newborns <1500 grams or < 30 weeks' gestational age

Percentage of Newborn Patients with Late Neonatal Infection, defined as an infection that begins after 72 hours of life. It is more common in very low birth weight newborns and is associated with hospital-acquired pathogens.

## 6 Survival rate without morbidity in newborns <1500 grams or <30 weeks' gestational age

Percentage of newborns weighing less than 1500 grams or born before 30 weeks' gestation who remain alive and free of morbidity until hospital discharge.

## 7 Neonatal mortality rate in newborns <1500 grams or <30 weeks' gestational age

Percentage of deaths in newborns weighing less than 1500 grams or born before 30 weeks' gestational age.

## 8 Mortality or morbidity rate in newborns <1500 grams or <30 weeks' gestational age

Percentage of newborns weighing less than 1500 grams or born before 30 weeks' gestation who either die or develop morbidity until hospital discharge.

## 9 Pediatric ICU mortality rate

Expresses the percentage of mortality in the Pediatric ICU relative to the total number of pediatric patients admitted.

### NEONATOLOGY AND PEDIATRICS

## WHAT HAS BEEN DONE TO IMPROVE

- ▶ Develop a respiratory support team to standardize mechanical ventilation practices, including physicians, physiotherapists, and nurses. The goal is to define the best technologies and ventilation modes to be used, based on the latest medical literature, to prevent chronic lung disease.
- ▶ Train the technical team, physicians, and physiotherapists on new mechanical ventilation devices to improve their use and implementation of these equipment.
- ▶ Adapt the Sense protocol and assess additional care practices that may positively impact the neurodevelopment of premature newborns (NB).
- ▶ Release the protocol for transitioning from tube feeding to enteral feeding by the medical, nursing, and speech therapy teams.
- ▶ Train the nursing team on care related to central catheters to prevent infections associated with their use.
- ▶ The milk bank supports the process by encouraging milk expression and educating mothers and babies about breastfeeding, aiming to increase engagement in this journey.
- ▶ Revise the institutional protocol for neonatology regarding the ongoing Ventilator-Associated Pneumonia protocol in collaboration with the Infection Control Committee (ICC) and the clinical practices team.

# Diagnostic Medicine



**DIAGNOSTIC MEDICINE** supports all outpatient and inpatient services at Einstein Hospital, serving patients, healthcare organizations, and businesses. It offers a comprehensive portfolio of laboratory tests, imaging diagnostics, cardiology, neurophysiology, endoscopy/colonoscopy, and image-guided interventions. It stands out for high and moderate complexity procedures, adhering to elevated standards of quality and safety, performed by a specialized team committed to ongoing updates and advancements. Aligned with the continuous evolution of knowledge, it plays a strong role in research, education, and innovation.

Laboratory Medicine provides equipment, facilities, clinical staff support, as well as highly skilled specialists dedicated to deliver the highest quality healthcare services. All tests are conducted using innovative technology and high-efficiency logistical processing. Additionally, partnerships with laboratories in Europe and North America allow for the provision of rare tests across various fields.

The imaging diagnostics department is integrated into a high-complexity hospital structure and is recognized for its relentless pursuit of providing healthcare with cutting-edge technology. Focused on prevention,

accurate diagnostics, and targeted therapies through theranostics, the department also supports other institutions with remote digital services, including teleradiology, remote consoles, advanced imaging processing, and artificial intelligence algorithms for diagnosis, all validated through testing.

Each year, investment in new technologies ensures pioneering and innovation across the sector, such as the recent incorporation of ultra-high-resolution CT equipment with artificial intelligence technology. This advancement enhances data utilization, reduces noise, and provides images with improved resolution and lower radiation exposure. Surgical planning is enhanced through software for functional and three-dimensional post-processing, enabling semi-automated surgical planning. MRI machines with embedded artificial intelligence accelerate image acquisition, optimizing exam time and resulting in greater comfort and safety for the patient. Artificial intelligence software also assists radiologists in interpreting scans such as CT and MRI of the brain, chest X-rays, bone fracture detection, and mammograms.

The Molecular Imaging and Theranostics department perform various essential procedures for

the care of patients with suspected or confirmed neoplasms, using different radioactive materials (radiopharmaceuticals). These procedures include diagnostic exams (SPECT/CT, PET/CT, and PET/MRI), radio guided surgeries, and treatments with radionuclides. For radioisotope therapies, the institution has 7 beds specifically equipped for this purpose, along with all necessary infrastructure for handling radiopharmaceuticals and a qualified multidisciplinary team.

Diagnostic Cardiology plays a crucial role across all units of the Einstein Health System, from preventive check-up exams to support for high-complexity hospital practices. In the area of education, it has a renowned program for advanced training in Echocardiography and Graphic Methods, as well as offering a *lato sensu* postgraduate program. The Clinical Neurophysiology Department, a pioneer in Brazil, offers the most advanced exams available, such as transcranial Doppler and urodynamics.

The Digestive Endoscopy and Colonoscopy Department, recently expanded, is equipped to perform high-complexity procedures.

Many of these procedures are combined with other specialties, such as Interventional Medicine. At

Morumbi unit, it has 10 examination rooms, 8 preparation beds, and 14 post-anesthesia recovery beds, providing a safe and comfortable environment for our patients.

The Centro de Medicina Intervencionista (CMI), Interventional Medicine Center, features a dedicated physical structure and a multidisciplinary team entirely focused on performing image-guided minimally invasive procedures, conducting approximately 15,000 procedures annually. CMI ranks among the most comprehensive in the world, offering services in Interventional Cardiology, Vascular Interventional Radiology, Interventional Oncology, Interventional Neuroradiology, and Diagnostic and Interventional Bronchoscopy, along with a wide range of other image-guided diagnostic and therapeutic procedures. It is the only service in Latin America to hold the IASIOS (International Accreditation System for Interventional Oncology Services) certification, which is reserved for centers of excellence that practice cutting-edge interventional oncology with quality and safety metrics.



DIAGNOSTIC MEDICINE

**Certifications and Recognitions**



► Marcas Mais Estadão  
Winners 2023  
2<sup>nd</sup> Place in  
Diagnostic Medicine

# Diagnostic Medicine

RESULTS 2023 ⊕ Better than reference ⊖ Equal to reference ⊖ Worse than reference

## VOLUME

9,969,850

Clinical laboratory and pathology exams

1,017,490

Imaging exams

- ▶ Imaging exams 825,407
- ▶ Endoscopy, Colonoscopy, Cardiology, Neurophysiology, and Interventional Medicine Exams 192,083

## REGISTERED PHYSICIANS

- ▶ Imaging 300
- ▶ Diagnostic Cardiology and Neurophysiology 98
- ▶ Interventional Medicine 34
- ▶ Endoscopy Center 55
- ▶ Clinical laboratory and Pathology 87

## TEACHING

315

Postgraduate students *lato sensu*

33 programs

33

Medical Enhancement Trainees

- INTERVENTIONAL RADIOLOGY AND ANGIOLOGY
- DIAGNOSTIC CARDIOLOGY ECHOCARDIOGRAPHY
- GRAPHIC METHODS IN RADIOLOGY
- LABORATORY HEMATOLOGY

5 programs

21

Medical Residents

18 in Radiology and 3 in Clinical Pathology

## SCIENTIFIC PRODUCTION

145

Publications

★★★★★

69 in journals with impact factor > 1

## Laboratory Medicine

APPROPRIATE CARE COST & COMPLICATIONS SURVIVAL & PROMS PATIENT EXPERIENCE/SATISFACTION

Rate of critical laboratory results communicated in a timely manner

99% ⊖

The higher, the better

REFERENCE 99%

- College of American Pathologists - CAP

1

Request for new biological sample collection

0,58% ⊕

The lower, the better

REFERENCE 0,6%

- College of American Pathologists - CAP

2

Amendment of released laboratory reports

2,4 ⊕

The lower, the better

REFERENCE 3,1

- College of American Pathologists - CAP

3

Customer satisfaction with laboratory sample collection

4,95 ⊕

The higher, the better

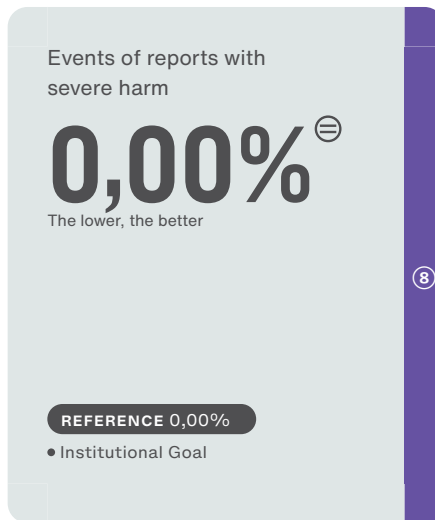
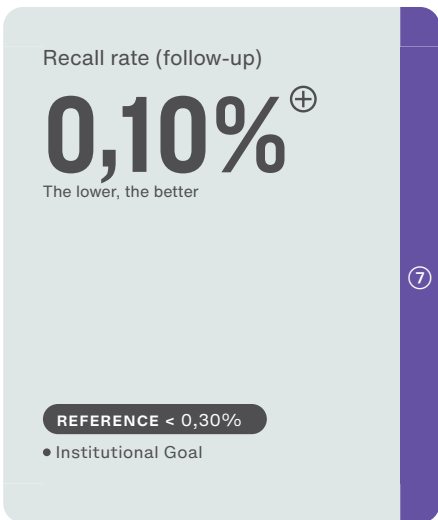
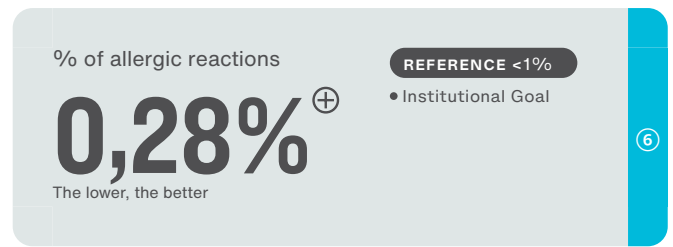
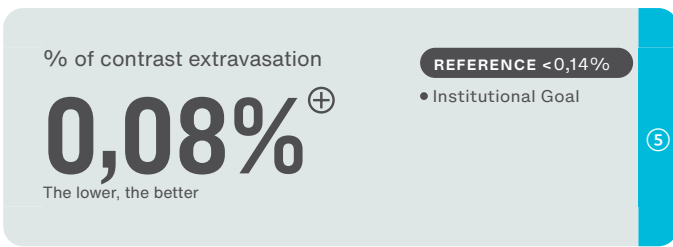
REFERENCE 4,5

- College of American Pathologists - CAP

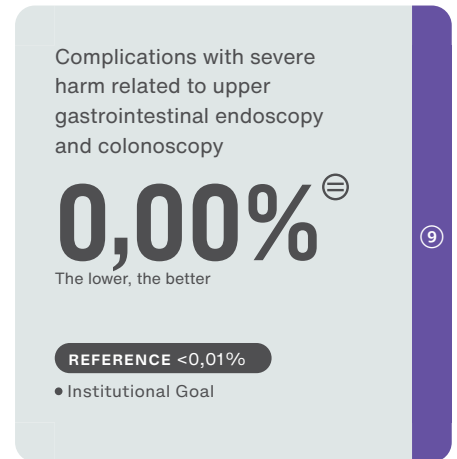
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## Image

APPROPRIATE CARE COST & COMPLICATIONS SURVIVAL & PROMS PATIENT EXPERIENCE/SATISFACTION

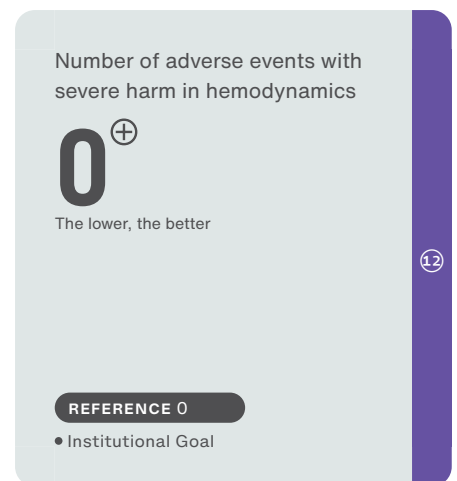
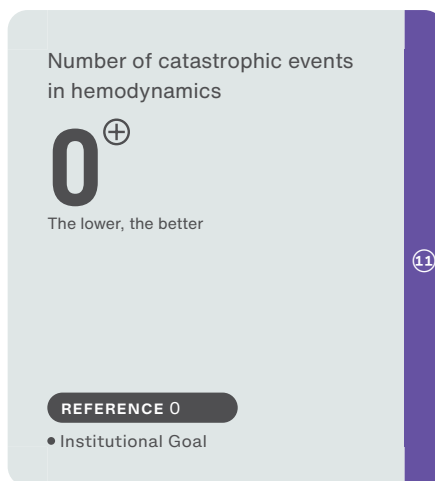
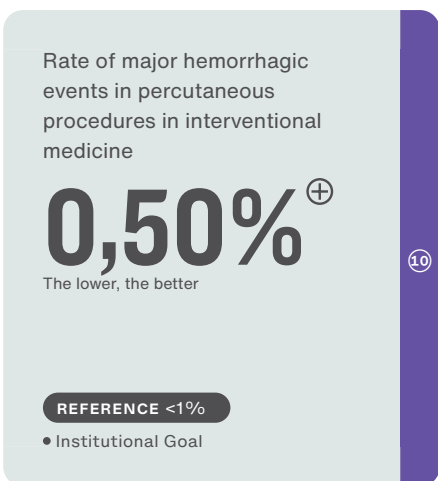


## Endoscopy

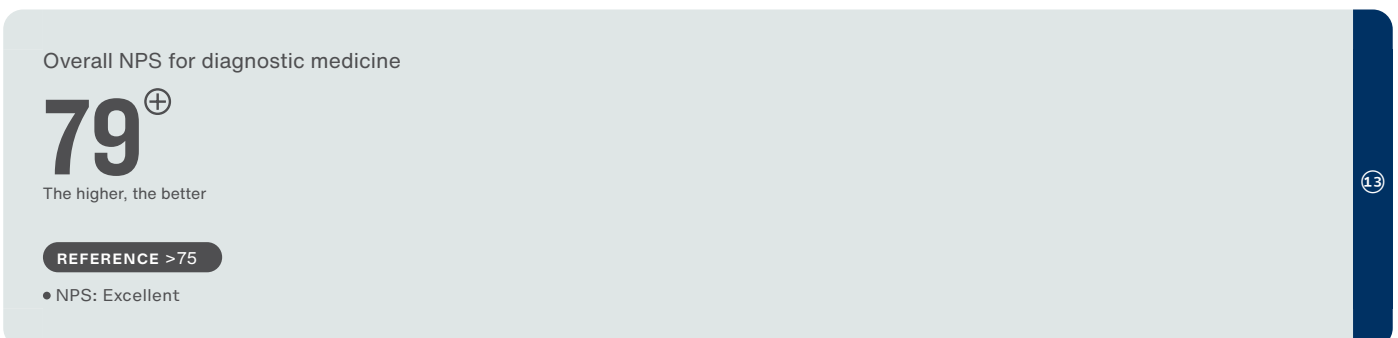


## Interventional Medicine

APPROPRIATE CARE COST & COMPLICATIONS SURVIVAL & PROMS PATIENT EXPERIENCE/SATISFACTION



## Diagnostic Medicine (general)





DIAGNOSTIC MEDICINE  
**WHAT HAS BEEN  
DONE TO IMPROVE**

- ▶ Establish a unified diagnostic medicine department.
- ▶ Expand and unify processes related to patient safety across Diagnostic Medicine through the Patient Safety Unit.
- ▶ Prepare, implement actions, and achieve IASIOS Certification in Interventional Medicine.
- ▶ Obtain certification through the Programa de acreditação em diagnóstico por imagem (PADI), (Imaging Diagnosis Accreditation Program) from Brazilian College of Radiology and Diagnostic Imaging.

# Understand the Diagnostic Medicine indicators

APPROPRIATE CARE   COST & COMPLICATIONS   SURVIVAL & PROMS   PATIENT EXPERIENCE/SATISFACTION

## 1 Rate of critical laboratory results communicated in a timely manner

Percentage of critical laboratory results communicated in compliance with institutional policy and in accordance with CAP (College of American Pathologists) guidelines.

## 2 Request for new biological sample collection

Percentage of requests for new biological material collection for result confirmation according to CAP (College of American Pathologists) guidelines.

## 3 Amendment of released laboratory reports

Index of laboratory reports produced by clinical laboratories that were corrected to ensure quality, accuracy, efficiency, and regulatory compliance. This follows the guidelines of the CAP (College of American Pathologists).

## 4 Customer satisfaction with laboratory sample collection

It reflects the degree of patient satisfaction, measured through a monthly survey, which allows for the calculation of this index in line with CAP (College of American Pathologists) guidelines.

## 5 Rate of contrast extravasation

Percentage of contrast extravasation, defined as the inadvertent administration of a vesicant fluid into adjacent tissues, which was presumably intended to remain inside the vessel and has the potential to cause tissue damage.

## 6 Rate of allergic reactions in imaging exams using contrast.

Percentage of patients who undergo imaging exams with contrast and experience an allergic reaction due to the procedure. The allergic reaction may occur due to hypersensitivity to the contrast molecule or the properties of the contrast agent.

## 7 Recall rate (follow-up)

Percentage of patients who are recalled for additional imaging exams due to issues that may occur, such as incorrect diagnoses and the inability to assess the images.

## 8 Adverse events with severe harm

Percentage of adverse events with severe harm, defined as unexpected and potentially preventable incidents (not related to the natural course of the disease, treatment, or underlying condition) that resulted in serious physical harm to patients.

## 9 Complications with severe harm related to upper gastrointestinal endoscopy and colonoscopy

Percentage of complications during upper gastrointestinal endoscopy and colonoscopy that resulted in severe harm, defined as unexpected and potentially preventable events (not related to the natural course of the disease, treatment, or underlying condition) that resulted in serious physical harm to patients.

## 10 Rate of major hemorrhagic events in percutaneous procedures in interventional medicine

Percentage of major hemorrhagic events in procedures performed in interventional cardiology. Major hemorrhagic events are defined as those that result in death (Type F), permanent disability (E), require significant treatment and prolonged hospitalization of more than 48 hours (D), or require extended treatment with hospitalization of less than 48 hours (C).

## 11 Number of catastrophic events in hemodynamics

Total number of incidents classified as catastrophic during the specified period in hemodynamics. Catastrophic adverse events are defined as unexpected and potentially

preventable incidents that resulted in death or permanent damage, such as the loss of an organ or permanent loss of function.

## 12 Number of adverse events with severe harm in hemodynamics

Total number of incidents classified as severe adverse events occurring during the specified period in hemodynamics. In the event of a severe adverse event, the harm caused to the patient requires advanced life support or surgery to reverse the damage.

## 13 Overall NPS for diagnostic medicine

Patient satisfaction is a measurable outcome of the patient's perception of the care and services received from professionals and the quality of services provided during hospitalization. It is measured using the Net Promoter Score (NPS), a metric of customer loyalty and satisfaction with the organization. The calculation is performed using the following formula: 
$$\text{NPS} = (\text{Promoters} - \text{Detractors}) / \text{Total Number of Respondents}.$$
 The parameter scores are: Excellent NPS, from 75 to 100; Very Good NPS, from 50 to 74; Reasonable NPS, from 0 to 49.

# Emergency Care Unit



**EMERGENCY CARE UNITS** (UPAs) are equipped with trained personnel to handle emergencies according to institutional protocols developed based on the best and most current scientific evidence. The teams have access to all necessary resources to manage cases of diverse complexity, and patients requiring hospitalization are supported by medical backup in various specialties. Moreover, the environment is designed to provide comfort and safety for patients during emergency care.

Altogether, there are five units in São Paulo and one in Goiânia, all providing 24-hour service, mobile emergency units, and various specialties including internal medicine, pediatrics, orthopedics, and general surgery.

## VOLUME

# 351,654

Emergency visits

## REGISTERED PHYSICIANS

# 254

On-call physicians

## TEACHING

# 277

Postgraduate students  
*lato sensu*

2 programs

# 10

Medical residents

# 15

Multidisciplinary enhancement students

1 program

## SCIENTIFIC PRODUCTION

# 362

Publications

★★★★★  
62 in journals with  
impact factor > 1



# Emergency Care Unit

RESULTS 2023 ⊕ Better than reference ⊖ Equal to reference ⊖ Worse than reference

APPROPRIATE CARE COST & COMPLICATIONS SURVIVAL & PROMS PATIENT EXPERIENCE/SATISFACTION

Door-to-triage time (average)

**4min** ⊕

The shorter, the better

1

REFERENCE <5min

• Institutional Goal

Door-to-physician time (average)

**25min** ⊖

The shorter, the better

2

REFERENCE <25min

• Institutional Goal

Emergency room to hospital admission conversion rate

**6,2%** ⊕

The shorter, the better

3

REFERENCE 11%

• ANAHP

Adherence to the 1-hour sepsis bundle by emergency care units (UPAs)

**85%** ⊖

The higher, the better

4

REFERENCE >90%

• Institutional Goal

Choosing Wisely Index

**2,8** ⊕

The lower, the better

5

REFERENCE <5,4

• Institutional Goal

Average length of stay in the emergency care unit (UPA)

**137min** ⊕

The shorter, the better

6

REFERENCE 143min

• Centers for Medicare and Medicaid Services (CMS)

Rate of patients readmitted within 72 Hours with use of semi-intensive care, ICU, or surgical center

**2,4%** ⊕

The lower, the better

7

REFERENCE <2,9%

• Institutional Goal

Rate of events with severe harm

**0%** ⊕

The lower, the better

REFERENCE 0%

• Institutional Goal

8

# Understand the Emergency Care Unit (UPAs) indicators

APPROPRIATE CARE COST & COMPLICATIONS SURVIVAL & PROMS PATIENT EXPERIENCE/SATISFACTION

## 1 Door-to-triage time

Time elapsed between the patient's retrieval of the ticket upon arrival at the emergency care unit (UPA) and the start of the initial assessment by the nursing staff. For emergency care, the time recorded is zero, as the patient is directed straight to treatment without a ticket retrieval.

## 2 Door-to-physician time

Time elapsed between the patient's retrieval of the ticket upon arrival at the emergency care unit (UPA) and the start of the medical consultation. For emergency care, the recorded time is zero, as the patient is directed straight to treatment without a ticket retrieval.

## 3 Emergency room to hospital admission conversion rate

Percentage of patients who arrive at the emergency care unit (UPA) and are admitted for hospitalization.

## 4 Adherence to the 1-hour sepsis bundle by emergency care units (UPAs)

Percentage of patients attended in Emergency Care Units (UPAs) with sepsis criteria who adhered to the 1-hour bundle. This bundle ensures the collection of serum lactate

(within 30 minutes), collection of cultures, and the initiation of appropriate intravenous antibiotics within the first hour of arrival at the unit. It also includes surgical procedures to control sources of infection, such as abscess drainage, removal of invasive devices, and wound debridement.

## 5 Choosing Wisely Index

The fraction of cases admitted to the Emergency Care Unit (UPA) that are not in compliance with the Choosing Wisely guidelines. These guidelines aim to avoid unnecessary tests, procedures, and treatments for patients, based on recommendations from leading medical societies. Examples of unnecessary procedures that these guidelines prevent include requests for CT scans in patients with uncomplicated rhinosinusitis and the prescription of cold or cough medications for common colds and coughs in children and adolescents.

## 6 Average length of stay in the emergency care unit (UPA)

The average time from ticket retrieval upon arrival to the completion of care.

## 7 Rate of patients readmitted within 72 hours with use of semi-intensive care, ICU, or surgical center

Patients with visits to the Emergency Care Units (UPAs) who return within 72 hours and have an outcome during this period (regardless of the number of returns) that results in admission to intensive or semi-intensive care, or referral to the surgical center for intervention.

## 8 Rate of events with severe harm

The percentage of patients treated in the Emergency Care Unit (UPA) who experience a severe adverse event. An adverse event is an unexpected and unintentional incident resulting from the care provided to the patient, unrelated to the natural course of the disease. In severe cases, the harm to the patient requires advanced life support or surgery to reverse the damage. This indicator reflects the quality and reliability of care processes and allows for the monitoring of improvements made to minimize the risk of these events occurring.

### EMERGENCY CARE UNIT

## WHAT HAS BEEN DONE TO IMPROVE

- ▶ Review care protocols to make them more precise and objective.
- ▶ Update the triage tool to make it more intuitive for nursing staff.
- ▶ Incorporate artificial intelligence tools to support the diagnosis of radiographic images in the UPAs.
- ▶ Continuously train the entire team to improve quality and safety indicators.
- ▶ Integrate the Isabel Symptom Checker tool to support differential diagnosis in the emergency department.
- ▶ Communicate via CMOA before a delay in the administration of antibiotics.
- ▶ Improve the medical decision support tool in the Cerner Millennium electronic health record.
- ▶ Use decision support tools for correct bed allocation.
- ▶ Discuss indicators monthly.

# Adult Intensive Care Unit



**THE ADULT INTENSIVE CARE CENTER** at Einstein comprises a set of units including General Adult Intensive Care, General Step-Down Care, Cardiac Step-Down Care, and Neurological Step-Down Care. In total, there are 139 allocated beds.

The Intensive Care Unit (ICU), consisting of 44 beds, is dedicated to the intensive care of the most critically ill and complex patients. In our benchmarking, it was identified that the severity of patients treated in Einstein's ICU is higher than that of patients treated in other internationally accredited ICUs.

In 2023, the SAPS 3 score (a predictive mortality index for patients admitted to the ICU) for patients treated at Einstein averaged 44.5, compared to 42 in other internationally accredited hospitals. The SOFA score (used to quantify morbidity in the ICU) for patients treated at Einstein was 3.5, versus 1.3 in other accredited hospitals. In addition to greater severity, patients also showed higher Charlson Index scores when compared to patients treated in other internationally accredited ICUs (2.4 at Einstein versus 1.6 in other hospitals). This index reflects the comorbidities and preexisting conditions of patients preceding ICU admission, which contributes to an increased risk of death.

Despite treating a more complex patient profile, Einstein's Adult ICU is considered a Top Performer ICU by AMIB and

Epimed Solutions® for achieving the best clinical outcomes with efficient and sustainable resource allocation. During daily multidisciplinary rounds, cases are jointly reviewed by intensivists and other specialists, aiming for individualized and safer processes for each patient. The therapeutic goals and objectives established during these multidisciplinary visits are continuously monitored and reassessed. Aiming to provide more humanized and patient-centered care, the presence of a support person is allowed 24 hours a day in the ICU. Additionally, family members, regarded as partners in the care process, can actively participate in multidisciplinary rounds, promoting greater engagement and involvement in the patient's treatment.

The Step-Down Units have a total of 95 beds. In this configuration, 51 beds are allocated to General Step-Down Care, which accommodates patients with moderate severity or those recovering from critical situations. The Cardiac Step-Down Unit has 22 beds specifically for patients with acute cardiac conditions requiring care appropriate to a specialized step-down unit. Finally, the Neurological Step-Down Unit, which also has 22 beds, is dedicated to the care of patients with neurological conditions, such as stroke, neuromuscular diseases, and postoperative care following neurosurgeries.

## INTENSIVE CARE Recognition



VOLUME

12,370

Discharges in 2023

REGISTERED  
PHYSICIANS

90

Physicians

SCIENTIFIC PRODUCTION

104

Publications

★★★★★

53 in journals with  
impact factor > 1

TEACHING

375

Postgraduate  
students  
*lato sensu*

6 programs

14

Students in a  
multidisciplinary  
residency  
program

14

Medical  
residents

27

Multidisciplinary  
enhancement  
students

2 programs



# Adult Intensive Care

RESULTS 2023 ⊕ Better than reference ⊖ Equal to reference ⊖ Worse than reference

APPROPRIATE CARE COST & COMPLICATIONS SURVIVAL & PROMS PATIENT EXPERIENCE/SATISFACTION

Standardized Resource Utilization Rate

0,58<sup>⊕</sup>

The lower, the better

REFERENCE 0,76

• Epimed Solutions (hospitals with international accreditation)

1

Central line-associated bloodstream infection rate (per 1,000 central venous catheters days)

0,45<sup>⊕</sup>

The lower, the better

REF. 1,4

• ANAHP

2

Ventilator-associated pneumonia rate (per 1,000 ventilator days)

0,68<sup>⊕</sup>

The lower, the better

REF. 2,8

• ANAHP

3

Catheter-associated urinary tract infection rate (per 1,000 catheter days)

0,26<sup>⊕</sup>

The lower, the better

REFERENCE 0,71

• ANAHP

4

Rate of ICU readmission within 48 hours of discharge

1,8%<sup>⊖</sup>

The lower, the better

REFERENCE 1,4

• Epimed Solutions (hospitals with international accreditation)

5

Average length of stay in the ICU

3,8 days<sup>⊕</sup>

The lower, the better

REFERENCE 4,6 days

• Epimed Solutions (hospitals with international accreditation)

6

ICU mortality rate

5,2%<sup>⊕</sup>

The lower, the better

REF. 5,4%

• Epimed Solutions (hospitals with international accreditation)

7

Standardized mortality rate

0,65<sup>⊖</sup>

The lower, the better

REF. 0,63%

• Epimed Solutions (hospitals with international accreditation)

8

SAPS-3

44,5<sup>⊕</sup>

REFERENCE 42

• Epimed Solutions (hospitals with international accreditation)

9

SOFA

3,5<sup>⊕</sup>

REFERENCE 1,3

• Epimed Solutions (hospitals with international accreditation)

10

Charlson Comorbidity Index

2,4<sup>⊕</sup>

REFERENCE 1,6

• Epimed Solutions (hospitals with international accreditation)

11

# Step-Down Unit

RESULTS 2023 ⊕ Better than reference ⊖ Equal to reference ⊖ Worse than reference

APPROPRIATE CARE COST & COMPLICATIONS SURVIVAL & PROMS PATIENT EXPERIENCE/SATISFACTION

Central line-associated  
bloodstream infection  
density rate

**0,06%**

The lower, the better

2

Ventilator-associated  
pneumonia density rate

**0%**

The lower, the better

3

Catheter-associated urinary  
tract infection density rate

**0,45%**

The lower, the better

4

Average length of stay in the step-down unit

**3,5 days**

The fewer, the better

6

Mortality rate in the step-down unit

**1,4%**

The lower, the better

7

Standardized mortality rate  
(SMR)

**0,26**

8

SAPS-3

**43,7**

9

Charlson Comorbidity Index

**2,0**

11



## ADULT INTENSIVE CARE UNIT

### WHAT HAS BEEN DONE TO IMPROVE

Consistently pursuing high performance, ensuring greater safety for critically ill patients through more robust care processes, while simultaneously providing a better care experience with more humanized and patient-centered care. To achieve these goals, we have developed several projects, including the following highlights:

- ▶ Implementing a team of wound, ostomy, and continence specialists dedicated to the daily monitoring of critically ill patients at high risk of developing pressure ulcers
- ▶ Establish a personalized care routine focused on safety and early recognition of high-risk situations for adverse events in patients with tracheostomies
- ▶ Continuously enhance interdisciplinary care teams in the management of critically ill and complex patients, such as those undergoing extracorporeal membrane oxygenation (ECMO)
- ▶ Identify and manage early patients who require rigorous and continuous monitoring due to their higher risk of experiencing severe or catastrophic adverse events (referred to as “watcher” patients)
- ▶ Establish a second layer of continuous remote monitoring for all patients admitted to the Adult Intensive Care Center through a CMOA (Care Monitoring Central)

# Understand the Intensive Care indicators

APPROPRIATE CARE COST & COMPLICATIONS SURVIVAL & PROMS PATIENT EXPERIENCE/SATISFACTION

## 1 Standardized Resource Utilization Rate

Calculated by dividing the length of stay (in days) of ICU patients by the severity-adjusted length of stay. A rate greater than 1 indicates a higher resource use than expected for the ICU, while a rate less than or equal to 1 indicates that resource use is consistent with expectations. In other words, it reflects an ICU that is efficient in its resource utilization.

## 2 Central line-associated bloodstream infection rate (per 1,000 central venous catheters days)

It expresses the incidence of bloodstream infection cases associated with the use of central venous catheters (CVC) in patients who have used a CVC for more than two days and who exhibit signs and symptoms of such complications.

## 3 Ventilator-associated pneumonia rate (per 1,000 ventilator days)

It expresses the incidence of ventilator-associated pneumonia in the Adult ICU among patients who have been on invasive mechanical ventilation for more than two days and who show signs and symptoms of this type of complication.

## 4 Catheter-associated urinary tract infection rate (per 1,000 catheter days)

It expresses the incidence of catheter-associated urinary tract infections in patients who have used an indwelling urinary catheter (IUC) for more than two days and who show signs and symptoms of this type of complication.

## 5 Rate of ICU readmission within 48 hours of discharge

It expresses the percentage of patients readmitted to the ICU within 48 hours of discharge. Readmissions to the same unit within a short period are associated with higher morbidity and mortality, so a low rate is an indicator of quality.

## 6 Average length of stay in the ICU

It expresses the average length of stay for patients. It indicates whether the hospital bed is managed efficiently.

## 7 ICU mortality rate

It expresses the percentage of mortality among the total number of patients admitted to the ICU.

## 8 Standardized mortality rate (hospital SMR)

Calculated by dividing the observed mortality by the expected mortality, which is estimated using one of the SAPS 3 predictive equations (current prognostic score with proper calibration to be used in intensive care units in Brazil).

## 9 SAPS 3

The SAPS-3 (Simplified Acute Physiology Score 3) is a predictive index of mortality for patients admitted to the ICU.

## 10 SOFA

The SOFA score is a tool used to quantify the morbidity of patients admitted to the ICU.

## 11 Charlson Comorbidity Index

It expresses the incidence of comorbidities and preexisting conditions in patients.

# Einstein Value Cases



## Hemorrhagic Code

**WHAT IT IS:** Between 2013 and 2015, deaths related to failure in controlling bleeding represented 32% of all catastrophic events at Hospital Israelita Albert Einstein (São Paulo, Brazil). These events were caused by failures in the early recognition and treatment of hemorrhages, as well as inadequate logistics between hospital support areas, leading to delays in patient care. In response to this situation, the institution developed a protocol called Code H (Hemorrhagic Code), which involves recognizing sudden changes in vital signs of adult patients associated with acute bleeding or hemodynamic instability and early referral of these cases for resolution.

### CLINICAL OUTCOMES

#### AVERAGE LENGTH OF STAY

**41 days**

Before code H

#### MORTALITY

**20%**

Before code H

**16 days**

After code H

p value <0.01

**15%**

After code H

p value <0.01

### ECONOMIC OUTCOMES

After Implementation of Code H – Analysis of 285 Cases

Estimated Savings – Average Cost

**R\$ 139,437.46**

(approximately US\$27,075)

Estimated Savings - Median Cost

**R\$ 123,432.46**

(approximately US\$23,967)

Total Savings

**R\$ 39,739,675.16**

(approximately US\$7,716,442)

### CONCLUSION

It is estimated that the implementation of Code H led to a reduction of **7,227 hospital days** and a savings of **R\$ 39,739,675.16** in waste, contributing to the sustainability of the healthcare system.

**References:** 1. Jaures M, Pigatti NM, Rodrigues RR, Fernandes FP, Guerra JC. Bleeding management after implementation of the Hemorrhage Code (Code H) at the Hospital Israelita Albert Einstein, São Paulo, Brazil. Einstein (São Paulo). 2020; 18:1-6  
 2. Guerra JCC, Jaures M, Rodrigues RDR, Cypriano AS, Malheiro DT, Dantas ACB, Fernandes FP, Negrini NMM, Teich VD. Hemorrhagic code protocol, a successful case in the patient blood management model for patients with severe hemorrhages. Hematol Transfus Cell Ther. 2024 Apr-Jun;46(2):212-214.

# Second Opinion Program for Spinal Surgeries

**WHAT IT IS:** Back pain is the most common cause of musculoskeletal disability worldwide. In the last decade, the average annual spending for patients with spine-related disorders increased by 95%, with more than \$100 billion spent globally.<sup>1</sup> Surgical intervention is recommended in cases where conservative treatment is refractory and/or if there is progressive neurological deficit. Despite this

guideline, adherence in clinical practice is low, and in some cases, slightly more than 10% of patients receive evidence-based care.<sup>2</sup> To address this context, Einstein developed the “Second Opinion Program for Spinal Surgeries,” a multidisciplinary project aimed at providing a second opinion to evaluate patients referred for surgical treatment of degenerative spinal disease. This initiative included

patients with a prior indication for cervical or lumbar spine surgery. In the program, these individuals are referred to a board of specialists who re-evaluate their cases, providing opinions on the type of treatment to be undertaken (surgical, conservative, or infiltration). The clinical and economic outcomes of this intervention, covering the period from May 2011 to May 2019, were published by the institution in 2023.<sup>3</sup>

## CLINICAL OUTCOMES

Among the 1,088 patients who initially received a referral for surgical treatment and were followed for two years, the second opinion program recommended infiltration for 49 (4.5%) of them, clinical management for 662 (60.8%), and surgery for 377 (34.7%). Fusion was the primary treatment recommended in the initial referral (737 patients; 67.7%). Among these, the most recommended treatment by the second opinion program was conservative management for 449 patients (60.9%), followed by various surgical approaches for 258

patients (35%), and fusion/complex spinal surgery for only 6% of cases. Among patients initially referred for conservative treatment, the conversion rate to surgery was only 5%. To assess the utility of the treatment, patient-reported outcome measures (PROMs) were collected using the EuroQoL-5D-3L questionnaire, both before and two years after conservative or surgical treatment. Effectiveness was calculated as the percentage of patients who achieved the Minimal Important Change (MIC) at the end of the two-year period. The increase in quality-of-life score (utility) from the questionnaire at the two time points should be at least 0.2571 points.

### COMPARISON OF AVERAGE UTILITY SCORES AT THE BEGINNING AND AFTER 2 YEARS OF TREATMENT: SECOND OPINION VS. INITIAL REFERRAL

SECOND OPINION	BASELINE	2 YEARS	P-VALUE
SURGICAL	0.44 (0.18)	0.76(0.22)	< 0.01
CONSERVATIVE	0.57 (0.15)	0.79 (0.21)	< 0.01
INFILTRATION	0.55 (0.17)	0.80 (0.23)	< 0.01

Utility

FIRST REFERENCE	BASELINE	2 YEARS	P-VALUE
SURGICAL	0.44 (0.18)	0.77 (0.08)	< 0.01
CONSERVATIVE	0.57 (0.15)	0.76 (0.09)	< 0.01
INFILTRATION	0.55 (0.17)	0.73 (0.12)	< 0.01

Estimate Utility

## ECONOMIC RESULTS

To estimate the cost, the additional cost per patient achieving the Minimal Important Change (MIC) was calculated by comparing the second opinion with the initial referral after 2 years of follow-up. All treatment-related costs associated with the clinical condition studied during the period, including treatment failures, reinterventions, and the gain in utility, were considered.

INCREMENTAL COST-EFFECTIVENESS RATIO BETWEEN COMPARATORS	SECOND OPION PROGRAM	FIRST REFERRAL
Cost	R\$ 20,704.76	R\$ 54,441.63
Effectiveness (% of patients who achieved MIC)*	73,5%	65,8%
Incremental Cost	- R\$ 33,736.88	-
Incremental Effectiveness	7,7%	-
ICER (Incremental Cost-Effectiveness Ratio)	-R\$438,056.12	-

\* Effectiveness (percentage of patients with improvement greater than the reference MIC after 2 years) ICER = Incremental Cost-Effectiveness Ratio

## CONCLUSION

This study demonstrates that the second opinion program for patients with spine-related conditions is cost-effective. It is suggested that this program be considered in clinical settings as an alternative to direct referral for spine surgeries, as the results indicate its potential to enhance healthcare quality while optimizing resources.

**References:** 1. Martin BI, Deyo RA, Mirza SK, Turner JA, Comstock BA, Hollingworth W, Sullivan SD. Expenditures and health status among adults with back and neck problems. *JAMA*. 2008;299(6):656–64. 2. Amorin-Woods LG, Beck RW, Parkin-Smith GF, Loughed J, Bremner AP. Adherence to clinical practice guidelines among three primary contact professions: a best evidence synthesis of the literature for the management of acute and subacute low back pain. *J Can Chiropr Assoc*. 2014;58(3):220–37. 3. Antonioli, E., Tavares Malheiro, D., Damazio Teich, V. et al. Cost-effectiveness of a second opinion program on spine surgeries: an economic analysis. *BMC Health Serv Res* 23, 1441 (2023).

# Robotic Prostatectomy Surgery Program

**WHAT IT IS:** Robotic surgical techniques, which are minimally invasive and applicable to various medical conditions, can offer several advantages to patients. These benefits include reduced postoperative pain and discomfort, less blood loss during surgery, shorter hospital stays, and a quicker return to daily activities. Leadership and advancements in robotic surgery at

Einstein were crucial in achieving recognition as an Epicenter for Robotic Surgery in Urology by Intuitive Surgical® in Latin America in 2016. Founded in 2018, the Einstein Robotic Surgery Program, a pioneer in the country, has driven Strategic Surgical Specialties with a focus on High Complexity, Oncology, and Precision Medicine.

Additionally, the Hospital Israelita Albert Einstein became an Official Certification Center for Intuitive in 2019, receiving the first Si platform dedicated to training. Today, there are three robotic platforms exclusively for training, five medical postgraduate programs focused on robotics, and one in nursing. Over 1,200 surgeons, primarily from Brazil and Latin America, have been trained at the Center.

## CLINICAL OUTCOMES

The main outcomes of surgical treatment for prostate cancer are described using the Trifecta: biochemical recurrence assessed by PSA (> 0.05 ng/mL); urinary incontinence (indicated by the need for pads or diapers); and sexual impotence

(related to the quality of erection). To evaluate these complications, patients who underwent robotic surgery for prostate cancer treatment at the institution between 2017 and 2023 were followed for at least 12 months using the EPIC-CP (Expanded Prostate Cancer Index Composite for Clinical Practice)

questionnaire. The results obtained were compared with those of patients who underwent the same procedure at the Department of Surgery (Urology section) at the University of Chicago.

**The results are available in the following tables.<sup>1</sup>**

RESULTS AFTER 12 MONTHS OF FOLLOW-UP	DEPARTMENT OF SURGERY UNIVERSITY OF CHICAGO (N = 380)	HOSPITAL ISRAELITA ALBERT EINSTEIN (HIAE) (N = 940)	INCREMENTAL PERFORMANCE RELATED TO BENCHMARK	P - VALUE*
PSA < or = 0.05	95.64	84.63	-11.01	0.999
Urinary Continence	73.75	86.46	12.71	<0.001
Erectile function	61.7	71.43	9.73	0.003
Trifecta**	44.17	61.88	17.71	<0.001

\* One-sided proportion test for two populations with a significance level of 5%.

\*\* There is a limitation regarding the comparison periods due to the difficulty in finding studies in the literature that used the same instrument for measuring the Trifecta.

## ECONOMIC OUTCOMES

When comparing the resources consumed by patients during the follow-up period for outcomes, it was observed that patients adhering to the Trifecta indicators had lower hospital costs, with an average cost of

R\$ 1,513.80 and a median cost of R\$ 515.01. When comparing the rate of patients adhering to the Trifecta at Einstein (61.9%) with the comparator study from the University of Chicago (44.2%), there was an incremental performance of 17.7% in adherence to the Trifecta indicators.

Considering the 940 patients who underwent procedures at Einstein between 2017 and 2023, the results from Einstein show an increase of 166 cases adhering to the Trifecta metrics, representing an average total savings of

**R\$ 251,290.80**

and a median savings of

**R\$ 85,491.86**

## CONCLUSION

The Einstein Robotic Prostatectomy Program demonstrates significantly better clinical outcomes in terms of preserving urinary continence and erectile function post-surgery compared to the selected benchmark. The program's effectiveness also translates into substantial savings for the healthcare system, highlighting its positive impact in terms of health and cost-effectiveness.

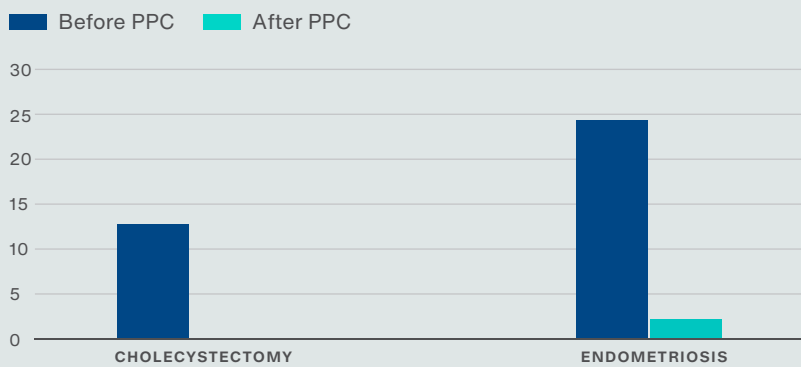
# Care Appropriateness Management Program (GPC)

**WHAT IT IS:** Medical services with minimal or no benefits (low-value care), in addition to burdening the healthcare system, can pose potential risks to patient safety. To address this issue, Einstein established the Care Appropriateness Management Program (GPC) in 2020. This program focuses on monitoring and limiting low-value surgeries such as those for endometriosis and cholecystectomy. The program aims to ensure that care is safe (i.e., when patients are not harmed by care intended to help them), effective (when services are provided only to those who would benefit from them), timely, and efficient (when it prevents the waste of equipment and supplies).

The implementation of this program was based on three steps: **(1)** the establishment of an expert advisory board; **(2)** providing information to gynecologists and general surgeons about the initiation of audits related to the appropriate criteria for endometriosis and cholecystectomy surgeries, respectively; and **(3)** limiting the performance of procedures that do not meet predefined criteria or whose criteria have not been validated by an expert advisory board. In this way, the program works to ensure the safety of care, optimize resource use, and improve the sustainability of the healthcare system.

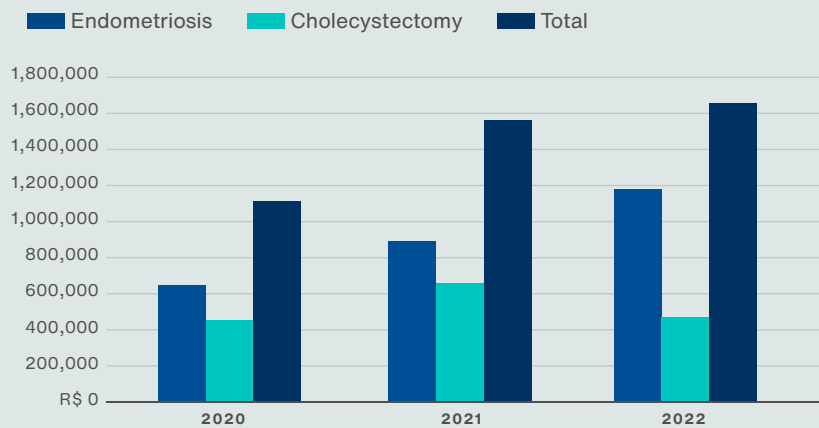
## CLINICAL OUTCOMES

### SURGERIES PERFORMED WITHOUT INDICATION (%)



## ECONOMIC OUTCOMES

### AVOIDED COSTS (R\$)



### SAVINGS OVER THREE YEARS

Endometriosis

**R\$ 2,711,766.00**

Cholecystectomy

**R\$ 1,578,173.00**

Total

**R\$ 4,289,939.00**

## CONCLUSION

The program has successfully prevented 13% of unnecessary cholecystectomies ( $p < 0.001$ ) and 22.2% of surgeries for endometriosis ( $p < 0.001$ ). This has resulted in an estimated cost reduction of **R\$ 4,289,939** for the healthcare system between 2021 and 2023. In addition to the presented data, it is worth noting that the program has been expanded to include other commonly performed procedures. The appropriateness analysis for spinal fusion was introduced in 2022, and in 2023, for pain management injections and endoprotheses for aortic aneurysm treatment. Since the inception of the Care Appropriateness Management Program (2021), these interventions, along with cholecystectomy and endometriosis surgeries, have collectively resulted in a total savings of **R\$ 5,435,508** by the end of 2023.

#### Reference:

Conte de Oliveira MD, Fernandes HdS, Vasconcelos AL, et al. Impact of a quality programme on overindication of surgeries for endometriosis and cholecystectomies. *BMJ Open Quality* 2023;12:e002178.

# Value Dossier 2024

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SOCIEDADE BENEFICENTE ISRAELITA BRASILEIRA

# Dossiê de Valor 2024

RESULTADOS 2023



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