



Juntendo University Hospital

Introduction of Departments

Departments

Internal Medicine

- ◆ General Medicine
- ◆ Cardiovascular Medicine
- ◆ Gastroenterology
- ◆ Respiratory Medicine
- ◆ Nephrology and Hypertension
- ◆ Rheumatology
- ◆ Hematology
- ◆ Diabetes, Endocrinology and Metabolism
- ◆ Medical Oncology
- ◆ Psychiatry
- ◆ Neurology
- ◆ Pediatrics and Adolescent Medicine

Surgery

- ◆ Pediatric General and Urogenital Surgery
- ◆ Gastroenterology and Minimally Invasive Surgery (currently as Esophageal and Gastroenterological Surgery)
- ◆ Esophageal and Gastroenterological Surgery
- ◆ Colorectal and Proctological Surgery
- ◆ Hepatobiliary-Pancreatic Surgery
- ◆ Breast Oncology
- ◆ Cardiovascular Surgery
- ◆ General Thoracic Surgery
- ◆ Neurosurgery
- ◆ Orthopedic Surgery and Sports Medicine
- ◆ Plastic and Reconstructive Surgery

Other

- ◆ Dermatology
- ◆ Urology
- ◆ Ophthalmology
- ◆ Otorhinolaryngology, Head and Neck Surgery
- ◆ Radiology and Radiation Oncology
- ◆ Obstetrics
- ◆ Gynecology
- ◆ Anesthesiology and Pain Medicine
- ◆ Rehabilitation Medicine
- ◆ Emergency Medicine
- ◆ Oral and Maxillofacial Surgery



General Medicine

Target Disorders/Diseases

- ◆ Disorders/diseases such as unknown fever, weight loss, and fatigue
- ◆ Infectious diseases such as pneumonia, urinary tract infection, HIV, syphilis and more
- ◆ Inpatient care for patients with undiagnosed multiple organ disorders
- ◆ After-hours outpatient services at the Primary Care Center
- ◆ Lifestyle-related diseases (e.g., abnormal cholesterol and uric acid levels)
- ◆ Comprehensive health checkup (outpatient, inpatient, and PET-CT) and more

Features

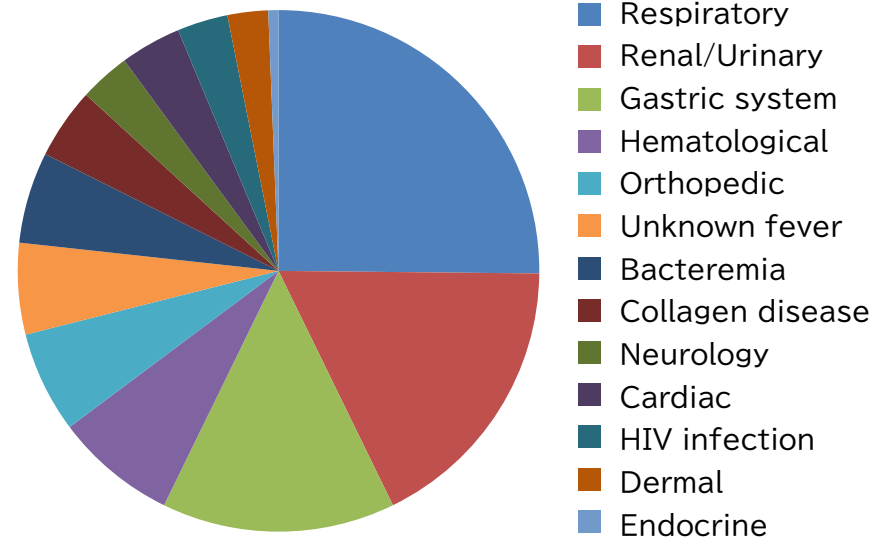
- ◆ Specializes in outpatient services such as vaccinations, constipation and more
- ◆ Performs preventive medicine per EBM guidelines to enhance health literacy via consultation with trusted doctor-patient relationships
- ◆ Produces infectious diseases manual for Juntendo University Hospital and provides antimicrobial consultations to all departments



Consultation



Weekly case study meetings



Inpatient Cases by Diseases (2019)

Cardiovascular Medicine

Target Disorders/Diseases

- ◆ Coronary artery disease, arteriosclerosis obliterans (ASO)
- ◆ Heart valve disease, congenital heart disease
- ◆ Arrhythmia
- ◆ Cardiomyopathy, cardiac insufficiency
- ◆ Pulmonary hypertension
- ◆ Sleep apnea syndrome
- ◆ Dyslipidemia



Features

- ◆ Annually performs more than 400 percutaneous coronary interventions (PCIs) and 100 transcatheter aortic valve implantations (TAVI)
- ◆ Performs more than 250 catheter ablation procedures annually for arrhythmias
- ◆ Juntendo University Hospital's Heart Center provides one of the most advanced cardiac rehabilitation programs in Tokyo (over 13,000 cases in 2020), accredited by the Japanese Association of Cardiac Rehabilitation (JACR)
- ◆ Actively utilizes the most advanced diagnostic imaging technology for diagnosis and treatment

2020 Treatments and Examinations

Categories	Details	Cases
Catheterization treatments	Total number of PCIs	392
	PTA	107
	Transcatheter aortic valve implantation (TAVI)	100
	Balloon pulmonary angioplasty (BPA)	19
	Percutaneous repair of mitral valve regurgitation	11
	Percutaneous transluminal septal myocardial ablation (PTSMA)	3
Arrhythmia treatments	Structural heart diseases: ASD, PDA, PFO	18
	Pacemaker implant	133
	Implantable Cardioverter defibrillators (ICD)	16
	Catheter ablation	259
Heart rehabilitation	Cardiac resynchronization therapy (CRT), including ICD	26
	Cardiovascular rehabilitation (first-time patients)	1,162
Echocardiogram	Transthoracic echocardiogram	15,880
CT	Coronary CT	792
MRI	Cardiac MRI	257
Nuclear medicine	Myocardial perfusion scintigraphy (MPS)	549

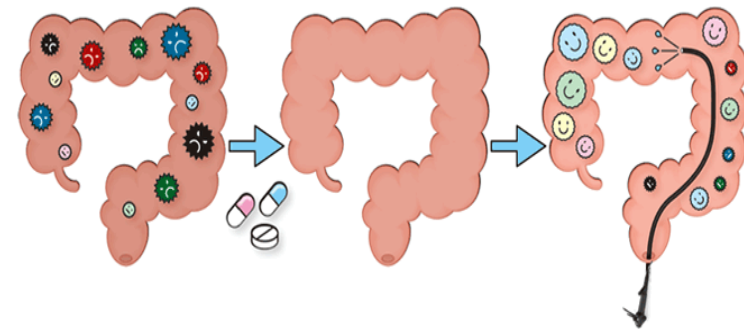
Gastroenterology

Target Disorders/Diseases

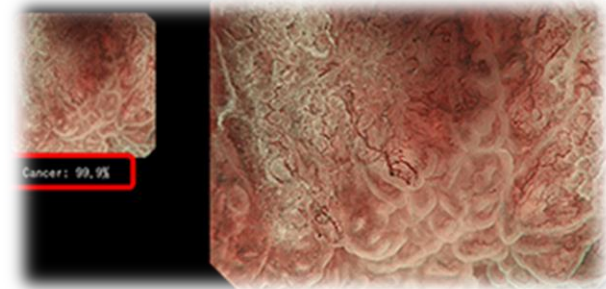
- ◆ Esophageal cancer, gastric cancer, colon cancer
- ◆ Inflammatory disorders/diseases, non-ulcer dyspepsia (functional dyspepsia)
- ◆ Liver cancer
- ◆ Pancreatic cancer, biliary tract cancer
- ◆ Viral hepatitis, alcoholic/non-alcoholic liver disease, autoimmune hepatitis

Features

- ◆ World #1 in gastric basal adenocarcinoma cases
- ◆ Most capsule endoscopy procedures in Japan
- ◆ World leader in high-level treatment technologies for bile duct, duodenal, and colon stents
- ◆ Japan's largest number of radiofrequency ablation (RFA) and new-generation microwave ablation (MWA) procedures for 7 consecutive years
- ◆ Development of an AI-supported endoscopic diagnosis system for gastric cancer
- ◆ Fecal transplantation therapeutic research for ulcerative colitis



Fecal microbiota transplantation therapy with antimicrobial agents



AI-supported endoscopic diagnosis system

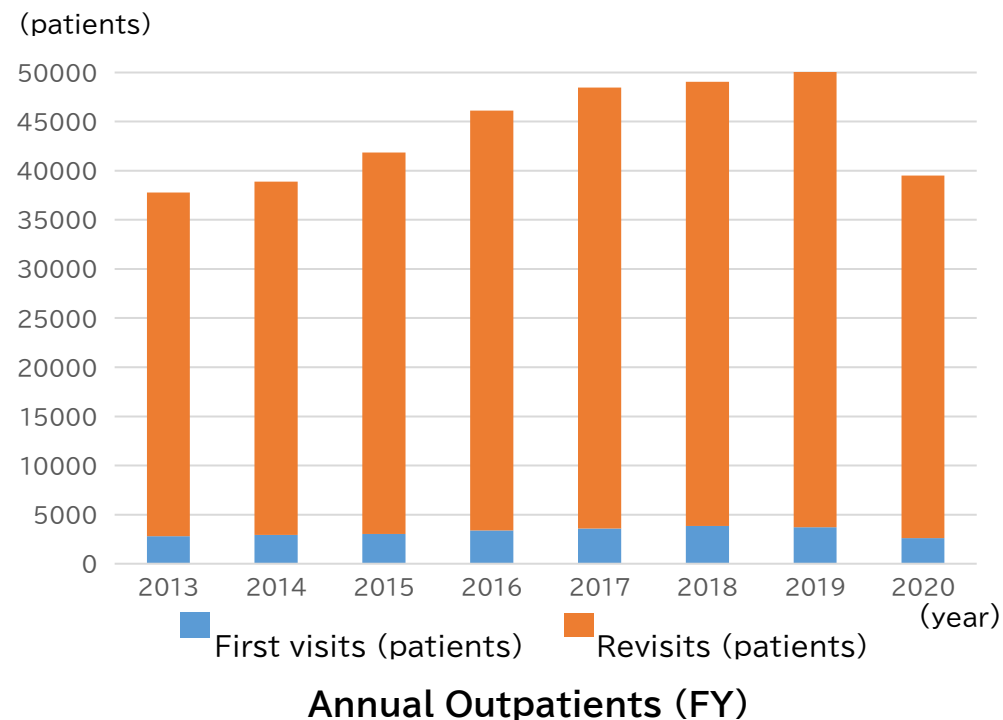
Respiratory Medicine

Target Disorders/Diseases

- ◆ Lung cancer/thoracic malignancies
- ◆ Bronchial asthma
- ◆ Chronic obstructive pulmonary disease (COPD)
- ◆ Interstitial lung disease
- ◆ Respiratory tract infection
- ◆ Rare lung diseases (lymphangiomyomatosis, pulmonary arterial hypertension, etc.)
- ◆ Sleep apnea syndrome (SAS) and more

Features

- ◆ Established in 1969, with the longest history of respiratory medicine in Japan
- ◆ Largest number of outpatients and inpatients among university hospitals in Japan
- ◆ Specializes in chemotherapy and provides best-available treatments, including conducting clinical trials for lung cancer patients
- ◆ Actively adapting advanced treatment methods for asthma, COPD, and interstitial pneumonia
- ◆ Providing experts in treating rare lung diseases and SAS



Nephrology and Hypertension

Target Disorders/Diseases

- ◆ Hypertension, hematuria, proteinuria and more
- ◆ Glomerulonephritis, interstitial nephritis
- ◆ Nephrotic syndrome
- ◆ Acute kidney injury (AKI), chronic kidney disease (CKD), diabetic kidney disease (DKD)
- ◆ Complications of hemodialysis/peritoneal dialysis

Features

- ◆ Comprehensive treatment available for all stages of CKD: treatment of primary disease; control of CKD progression; and prevention of complications
- ◆ Accepting consultations from various departments for conditions requiring continuous hemodiafiltration (CHDF) dialysis, contributing to improved overall health conditions
- ◆ Proactively performing kidney biopsies to identify causes of acute and chronic nephritis, nephrotic syndrome, and kidney damage associated with systemic diseases



Annual Outpatients

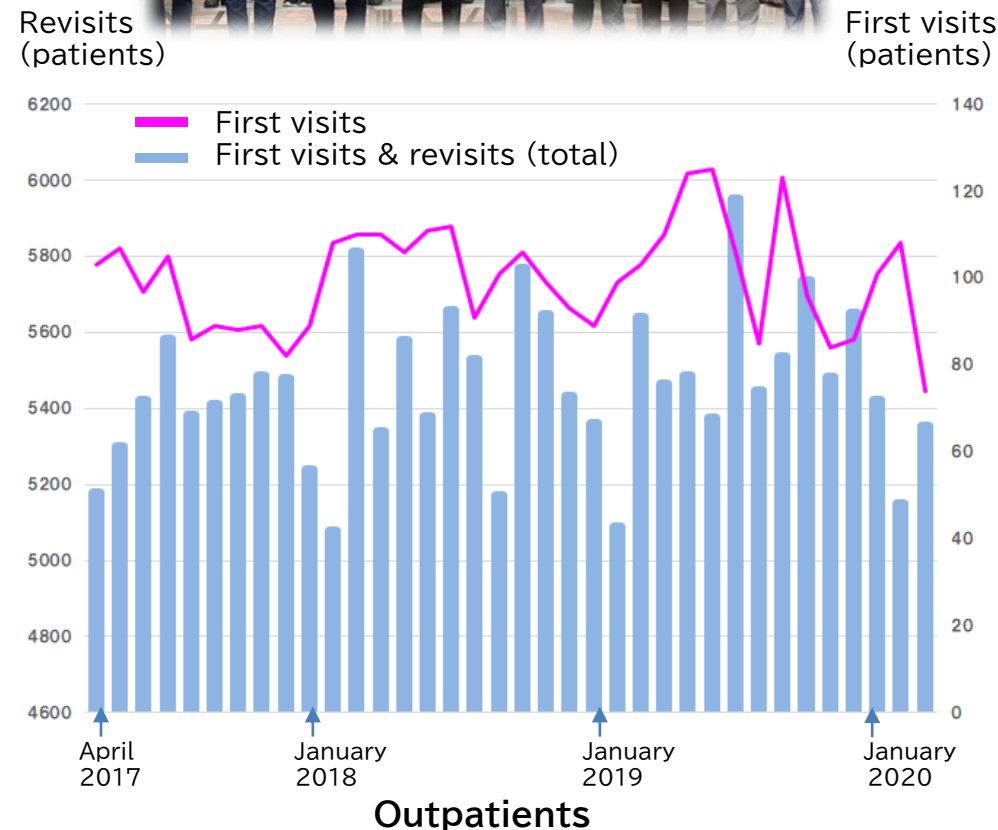
Fiscal year	Total outpatients	First-visit patients (with referral letter)
2013	40,947	786 (446)
2014	39,820	740 (426)
2015	41,859	606 (434)
2016	45,146	576 (401)
2017	46,252	568 (424)
2018	46,346	617 (488)
2019	45,995	584 (460)

Target Disorders/Diseases

- ◆ Wide range of connective tissue diseases
- ◆ Providing specialized outpatient clinics for rheumatoid arthritis, systemic lupus erythematosus, myositis, vasculitis, spondyloarthritis, and Sjögren's syndrome

Features

- ◆ First established department specializing in connective tissue diseases in Japan
- ◆ Abundant experience in treating large number and wide variety of rheumatic diseases
- ◆ Providing advanced in- and outpatient treatments based on latest research findings, using molecularly targeted therapies such as biological drugs and therapeutic apheresis

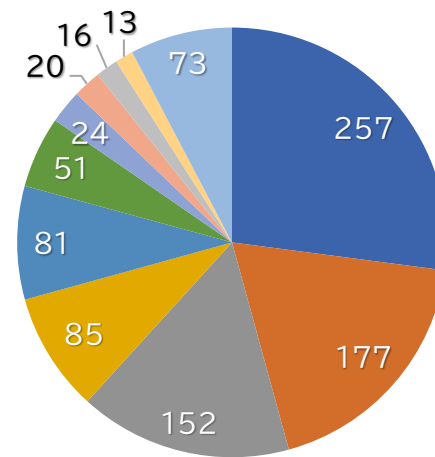


Target Disorders/Diseases

- ◆ Acute/chronic leukemia (myelogenous/lymphocytic)
- ◆ Malignant lymphoma, multiple myeloma
- ◆ Polycythemia vera, essential thrombocythemia
- ◆ Myelofibrosis
- ◆ Idiopathic thrombocytopenic purpura and more

Features

- ◆ Advanced treatments are available based on the following fundamental research results:
 - Elucidation of the mechanisms of myeloproliferative tumor development
 - Development and application of genetic diagnosis technologies for hematological diseases
 - Elucidation of functions of transcription factors in hematopoietic tumors
 - Development of immuno-cell therapy using iPS cell-derived T cells
- ◆ Certified to offer CAR-T therapy for intractable acute lymphoblastic leukemia and malignant lymphoma



Diseases of First-visit Outpatients (2019)

- Malignant lymphoma (including suspicions cases)
- Abnormal blood cell counts (excluding anemia and thrombocytopenia)
- Anemia
- Thrombocytopenia (including ITP)
- Myeloproliferative diseases
- Plasmacytoid tumors
- Lymphocytic and histiocytic diseases
- Myelodysplastic syndromes
- Acute leukemia
- Coagulation disorders, thrombotic diseases
- Others (including donors)

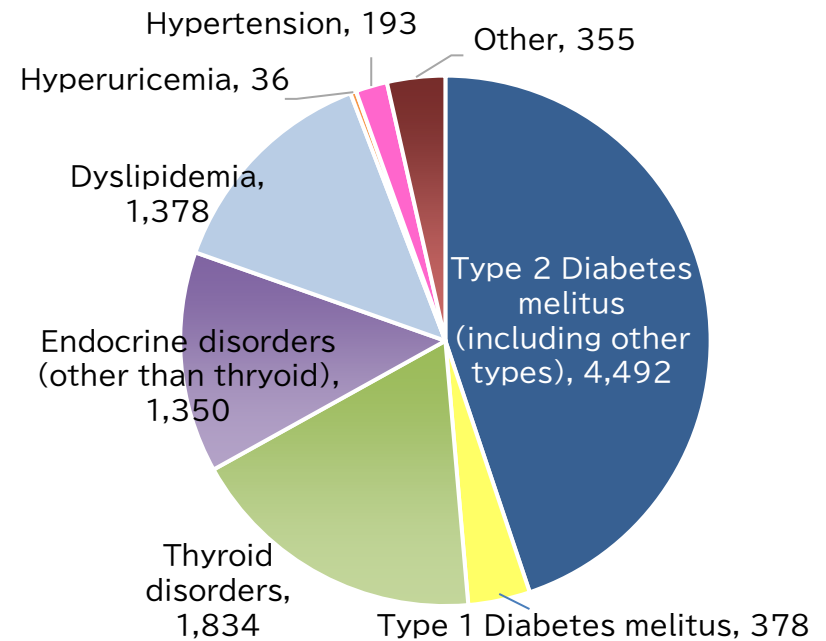
Diabetes, Endocrinology and Metabolism

Target Disorders/Diseases

- ◆ Diabetes mellitus
- ◆ Dyslipidemia, hyperuricemia
- ◆ Metabolic diseases
- ◆ Thyroid diseases (Grave's disease, etc.), parathyroid diseases
- ◆ Pituitary diseases (Cushing disease, etc.), adrenal diseases (primary aldosteronism, etc.)

Features

- ◆ One-week in-hospital diabetes education program provides patient education on disease, diet, and exercise methods; examines insulin secretory capacity and complications of diabetes mellitus; and develops treatment plans for patients
- ◆ Introduction of Sensor Augmented Pump (SAP) therapy for type 1 diabetes
- ◆ Among the largest number of aspiration cytology cases for thyroid tumors in Japan
- ◆ Performing catheterization in cooperation with the Department of Radiology for diagnosis and treatment of primary aldosteronism



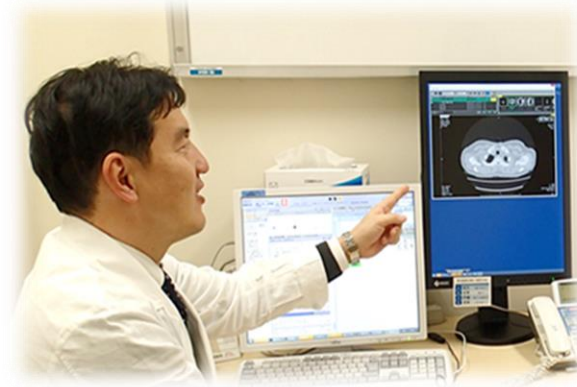
Outpatients by Major Disease (2019 FY)

※ Duplications of same patients with multiple diseases

Medical Oncology

Target Disorders/Diseases

- ◆ Solid tumors
(bone/soft tissue; neuroendocrine; gastrointestinal stromal tumors; gastrointestinal cancers; hepatobiliary and pancreatic cancers; cancers of unknown primary and more)



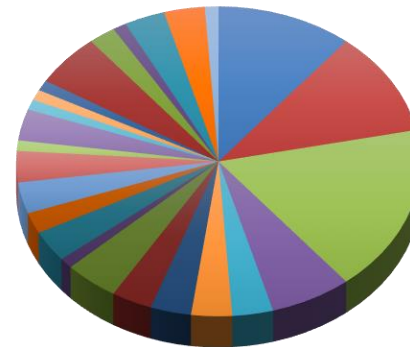
Outpatient consultations

Features

- ◆ Collaborating with other departments through the Cancer Board to discuss and implement multidisciplinary treatment strategies and specialized pharmacotherapy
- ◆ Conducting cancer gene panel tests for precision medicine in cancer treatment, examining mutation profiles of cancer-related genes in tumor cells of individual patients



Cancer Board



Number of patients by diseases (2019)

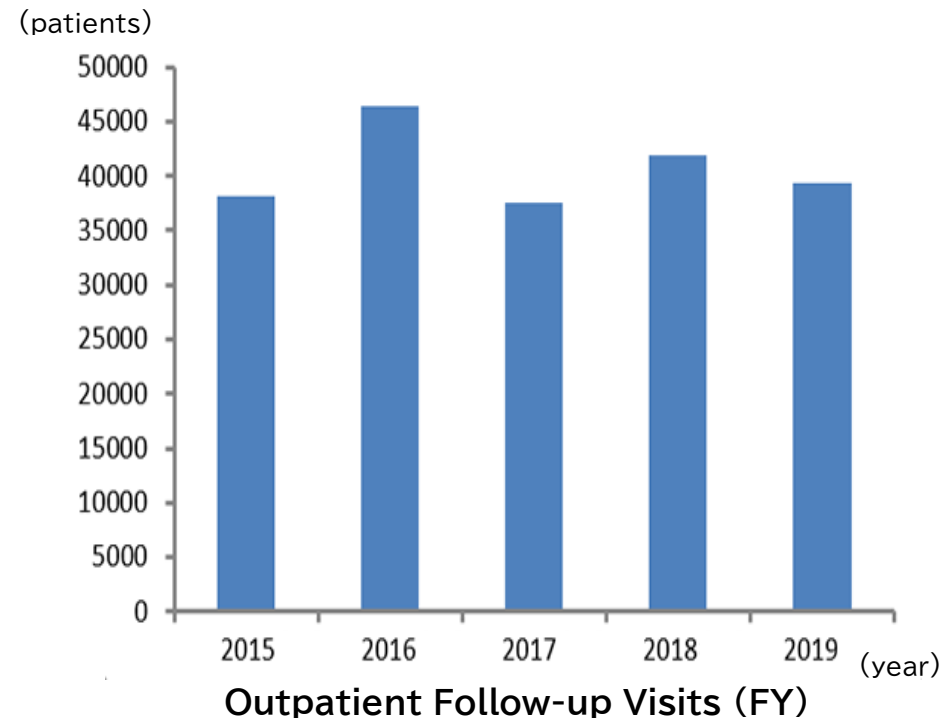
- Osteosarcoma/soft-tissue tumors
- Cancer of unknown origin
- Colorectal cancer
- Gastric cancer
- Germ cell tumor
- Benign disease
- Lung cancer
- Esophageal cancer
- Pancreatic cancer
- Gallbladder cancer
- Bile duct cancer
- Liver cancer
- Prostate cancer
- Head and neck cancer
- Malignant melanoma
- Ovarian cancer
- Cervical cancer
- Brain tumor
- Small intestine cancer
- Breast cancer
- Heart tumor
- Adrenal cancer
- Kidney cancer
- Bladder cancer
- Malignant lymphoma

Target Disorders/Diseases

- ◆ Organic mental health disorders
- ◆ Mood (emotional) disturbance, somatoform disorder
- ◆ Neurotic and stress-related disorders
- ◆ Schizophrenia, delusional disorders
- ◆ Psychological developmental disorders and more

Features

- ◆ Six Juntendo University affiliated hospitals offer holistic psychiatric care in combinations with each functionally differentiated care
- ◆ First university hospital in Tokyo to be designated in the Tokyo Metropolitan Physical Complications Care Programme for psychiatric patients
- ◆ Focusing on diagnosis and treatment of mood symptoms associated with neurodegenerative diseases such as Parkinson's disease, in collaboration with the Department of Neurology
- ◆ Established an outpatient clinic specializing in mood disturbance, also focusing on treatments for depression, bipolar disorder and more



Target Disorders/Diseases

- ◆ Degenerative diseases: Parkinson's diseases, dementia, etc.
- ◆ Cerebrovascular diseases: atherothrombotic cerebral infarction and others
- ◆ Neurological autoimmune/muscular diseases: myasthenia gravis, muscular dystrophy, etc.
- ◆ Functional diseases: epilepsy, headaches and more
- ◆ Peripheral nerve disorders: Guillain-Barré, CIDP, etc.
- ◆ Neuroinfectious diseases: meningitis, encephalitis, etc.



Features

- ◆ Ranked 10th in the world (1st in Japan) in 2021 World's Best Hospitals Neurology by *Newsweek* magazine
- ◆ Top-tier facility in Japan for Parkinson's disease with remarkable achievements in treatment and clinical research
- ◆ Largest number of patients treated with device-aided therapy (deep brain stimulation, levodopa-carbidopa continuous infusion gel therapy) for Parkinson's disease in Japan
- ◆ Recombinant tissue-type plasminogen activator (rt-PA) and mechanical thrombectomy by catheter for acute ischemic stroke



	Year 2019 (patients)
Total outpatients	82,815
First-visit patients	2,870
Follow-up visits	79,945
Emergency patients	946

Pediatrics and Adolescent Medicine (1)

Target Disorders/Diseases (Groups)

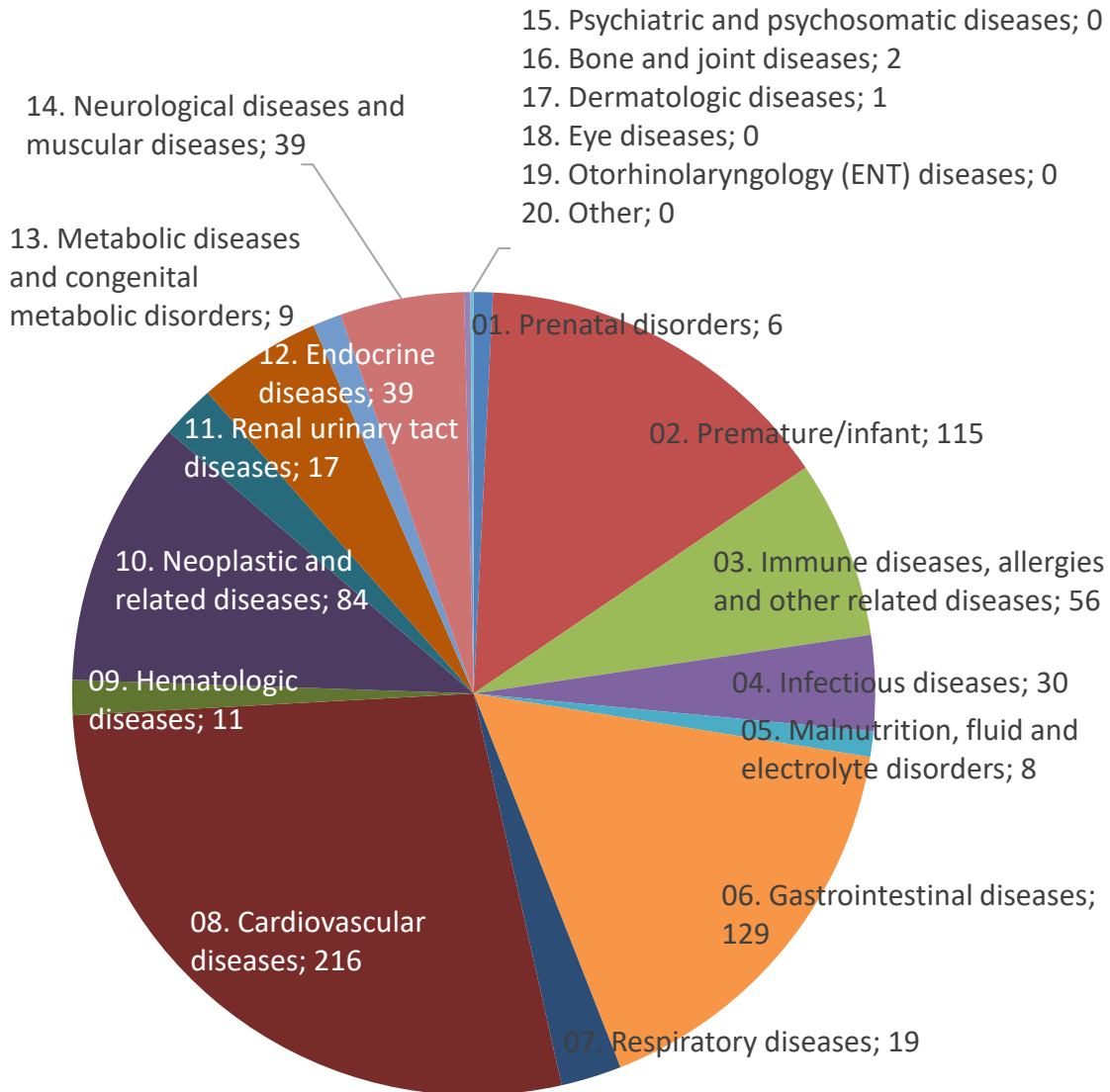


- ◆ Gastrointestinal: abdominal pain, diarrhea, and constipation
- ◆ Neonatal: prematurity, neonatal diseases
- ◆ Cardiovascular: congenital heart diseases, arrhythmia, Kawasaki disease
- ◆ Endocrinal: endocrine and metabolic diseases such as diabetes mellitus
- ◆ Infection: infectious diseases, respiratory diseases
- ◆ Renal: renal/urological diseases
- ◆ Hematology and oncology: leukemia and other hematological/malignant tumors
- ◆ Neurology: epilepsy and neurological diseases
- ◆ Liver and metabolic: liver and metabolic diseases
- ◆ Immunology/allergy/rheumatology: asthma, atopic dermatitis, food allergy, connective tissue diseases
- ◆ Developmental: developmental disorders, child and adolescent psychiatric diseases

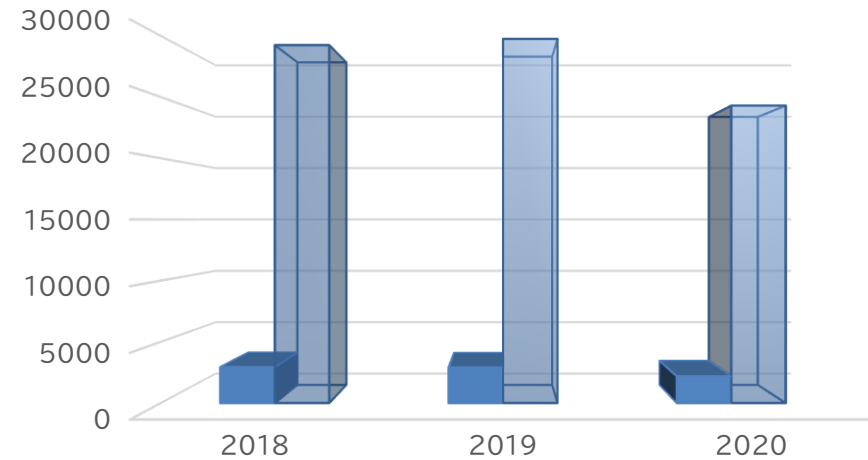
Features

- ◆ Pediatric medical center and perinatal center specialize in the treatment of all neonatal and pediatric diseases
- ◆ A top-tier medical institution in Japan for treatment of pediatric gastrointestinal diseases such as inflammatory bowel disease, irritable bowel syndrome, peptic ulcer, intractable diarrhea, and pancreatic diseases
- ◆ In collaboration with the Department of Cardiovascular Surgery, treating congenital heart diseases, providing catheter treatments, and treatments for arrhythmia (catheter ablation), and coronary artery lesions of Kawasaki disease
- ◆ Striving for intact survival focusing on nutritional management of preterm infants, combining enteral and intravenous nutrition from the early postnatal period
- ◆ Specialist medical care for endocrine and metabolic diseases including diabetes mellitus, short-for-gestational age (SGA) and more
- ◆ Among limited number of developmental clinics in Japan to offer continuous developmental follow-up

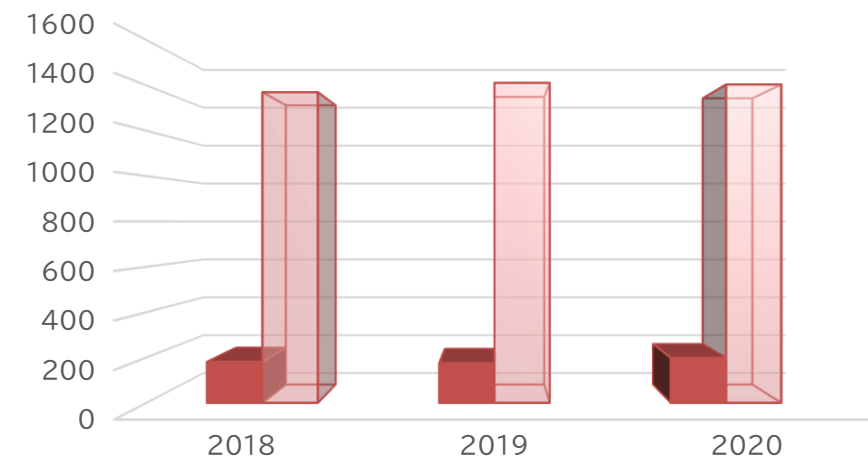
Pediatrics and Adolescent Medicine (2)



Analysis of Treated Patients by Diseases (inpatients)



■ First-visit outpatients (patients/year) ■ Total outpatients (patients/year)



■ Premature infant inpatients (patients/year) ■ Total inpatients (patients/year)

Pediatric General and Urogenital Surgery

Target Disorders/Diseases

- ◆ **Robotic surgery**
Choledochal cyst, ureteropelvic junction obstruction, mediastinal tumors
- ◆ **Thoracoscopic surgery**
Esophageal atresia, cystic lung disease (CPAM, sequestration)
- ◆ **Laparoscopic surgery**
Biliary atresia, Hirschsprung's disease, anorectal malformation, inguinal hernia
- ◆ **General pediatric surgery**
Inguinal hernia, umbilical hernia, undescended testis
- ◆ **Neonatal surgery (including prenatally diagnosed)**
- ◆ **Pediatric urogenital surgery**
Duplex kidneys, hydronephrosis, neurogenic bladder, hypospadias, buried penis
- ◆ **Surgical oncology**
Neuroblastoma, Wilms' tumor, sarcoma

Features

- ◆ Specialist pediatric and urogenital surgeons strive for excellence through teamwork and innovation based on solid education and training
- ◆ Expertise and compassion ensures the best outcome for every patient
- ◆ - 1,000 operations annually

“Operate on sick children as if they were my own”



Robotic assisted pyeloplasty (da Vinci)



Website

More information about robotic surgery (da Vinci) at Juntendo:

<https://www.juntendo.ac.jp/hospital/clinic/shonigeka/about/operation/>
<https://www.youtube.com/watch?v=Oq0vPixYBJs>

Gastroenterology and Minimally Invasive Surgery

Target Disorders/Diseases

- ◆ Gastric cancers
- ◆ Gastric submucosal tumors
- ◆ Esophageal hiatal hernia/esophageal achalasia
- ◆ Inguinal hernia/abdominal wall hernia and more

Features

- ◆ Emphasizing “cure” and “safety” with minimally invasive laparoscopic treatments for early and advanced gastric cancer patients
- ◆ Introduced the first endoscopic full thickness resection (EFTR) + laparoscopic simple closure for treating gastrointestinal tumors in Japan
- ◆ Leading gastric cancer treatment in Japan, with more than 1,700 laparoscopic gastrectomies
- ◆ Contributing to the development of new surgical methods to treat gastric cancer, such as laparoscopic left thoracoabdominal approach and suprapancreatic lymph node dissection



Surgeries Performed (2019)

Esophagectomy	4 cases	(all thoracoscopic/ mediastinoscopic surgeries)
Gastrectomy	89	(robot-assisted, 11 cases; laparotomy, 1 case)
Colectomy (colon/rectum)	15	(laparotomy: 1 case)
Cholecystectomy (Gallstone/ Cholecystitis)	43	(all laparoscopic)
Inguinal hernia surgery	40	(incisional: 3 cases)
Appendectomy	63	(all laparoscopic)
Other surgeries	32	

Esophageal and Gastroenterological Surgery

Target Disorders/Diseases

- ◆ Esophageal cancers
- ◆ Gastric cancer, gastric malignant lymphoma
- ◆ Esophageal submucosal tumors, hiatal hernia

Features

- ◆ Among Japan's top esophageal cancer surgery performing facilities, achieving a high-level survival rate by performing high-quality lymph node dissection
- ◆ Minimizing surgical burdens on patients using thoracoscopic and laparoscopic techniques for esophageal cancer
- ◆ Providing high-quality treatments ranging from endoscopic treatments, preoperative chemotherapy, surgery, postoperative adjuvant therapy, to surveillance follow-up exams
- ◆ Performing a large volume of laparoscopic and laparotomy procedures for gastric cancer
- ◆ Minimal invasiveness for benign esophageal and gastric diseases (including submucosal tumors) by combining endoscopic and surgical treatments



Procedures Performed (2019)

Surgical cases: 174

Endoscopic treatment: 131

Esophageal cancer	Esophagostomy	65 cases (laparoscopic 48)
	Endoscopic submucosal dissection	56
Gastric cancer	Distal gastrectomy	37 (laparoscopic 10)
	Total gastrectomy	8
	Proximal gastrectomy	2
	Endoscopic submucosal dissection	50
Pharyngeal cancer	Endoscopic submucosal dissection	25
Other	Intestinal obstruction etc.	37

Colorectal and Proctological Surgery

Target Disorders/Diseases

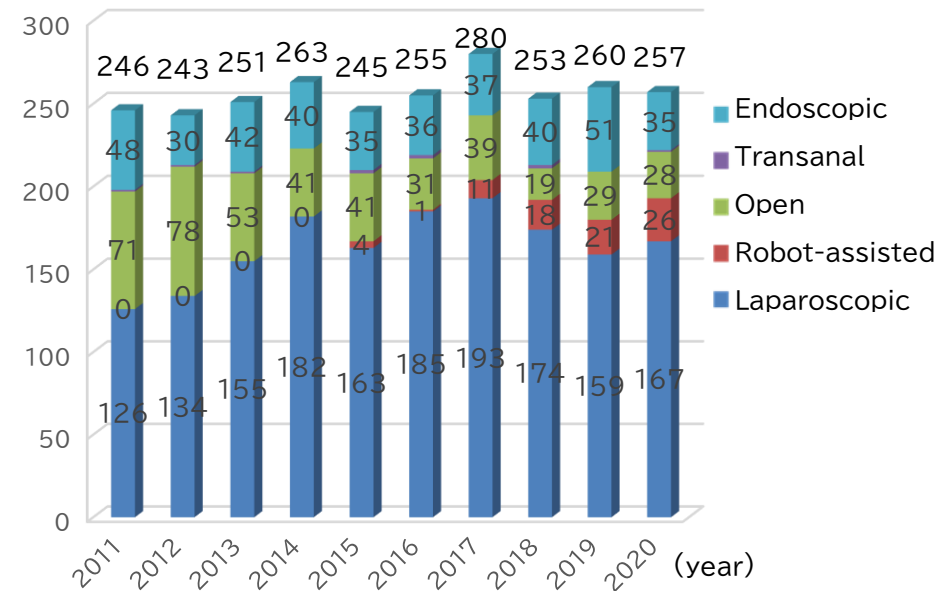
- ◆ Colorectal cancer
- ◆ Colorectal adenoma
- ◆ Inflammatory bowel diseases
- ◆ Anal diseases
- ◆ Hernias and more



Features

- ◆ Providing functional preservation procedures such as intersphincteric resection (ISR) and ultra-low anterior resection for colorectal cancer
- ◆ Actively performing complex and technically-challenging endoscopic submucosal dissections (ESD) with no major complications (perforations or other accidents) requiring emergency surgery to date
- ◆ Actively performing reduced-port surgeries including uniportal (TANKO) surgeries for diseases such as appendicitis
- ◆ Constantly growing the number of robot-assisted colorectal surgeries, first introduced in 2015

(surgeries)



Colorectal Cancer Treatment Procedures

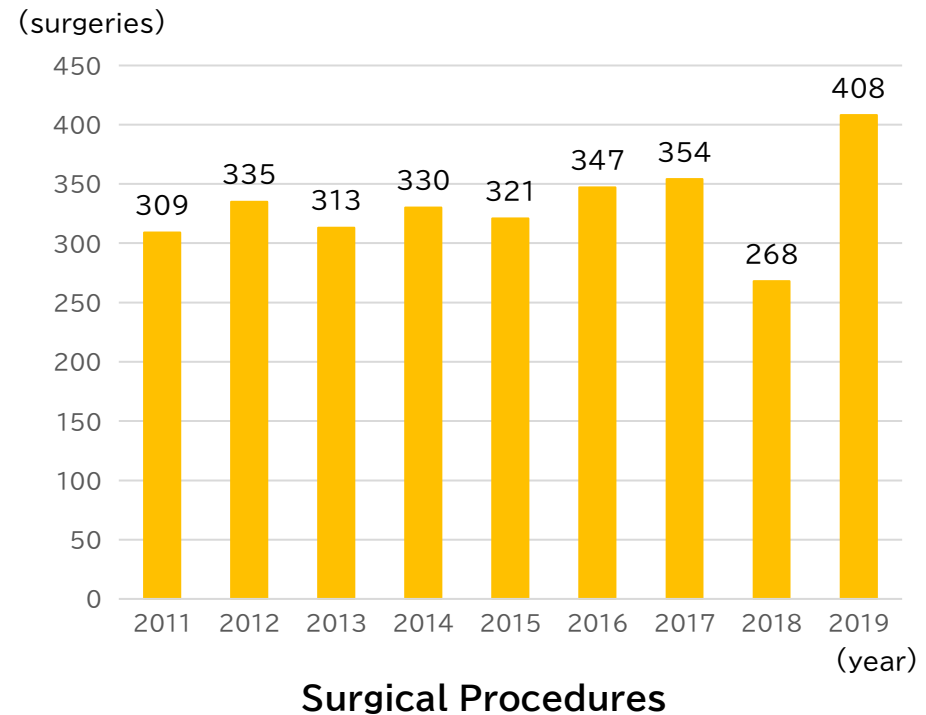
Hepatobiliary-Pancreatic Surgery

Target Disorders/Diseases

- ◆ Liver cancer, bile duct cancer, gallbladder cancer, pancreatic cancer, metastatic liver cancer
- ◆ Portal hypertension
- ◆ Cholecystitis, cholelithiasis, common bile duct stones
- ◆ Pancreatic endocrine tumors
- ◆ Splenomegaly, splenic cyst and more

Features

- ◆ 1- to 2-year survival rates of 98% for recipients of living donor liver transplantation
- ◆ Treating unresectable advanced cancer with multidisciplinary treatments and vascular resection
- ◆ Introduction of robot-assisted pancreatic resection
- ◆ Strengthening interdisciplinary cooperation with Department of Colorectal and Proctological Surgery and Department of Gastroenterology through weekly conferences
- ◆ Performing hepatopancreatoduodenectomy (HPD) for extensive cholangiocarcinoma



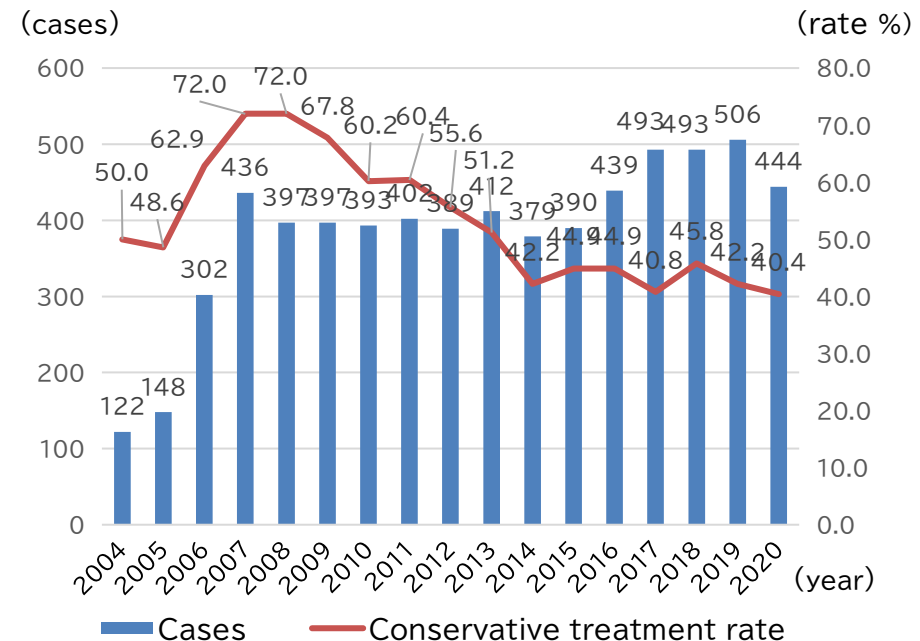
Breast Oncology

Target Disorders/Diseases

- ◆ Malignant breast tumors (breast cancer, lobular carcinoma, hemangiosarcoma, etc.)
- ◆ Benign breast tumors (fibroadenoma, lobular carcinoma, etc.)
- ◆ Hereditary breast and ovarian cancer syndrome, mastitis and more

Features

- ◆ Providing local (surgery/radiation therapy) and systemic (pharmacotherapy) guideline-based treatment considering the individualized needs of patients
- ◆ Practicing team-based care from diagnosis to treatment through collaboration with diagnostic radiologists, pathologists, plastic surgeons, nurses, radiologists, ultrasound technicians, and pharmacists
- ◆ Offering a full range of care: genetic counseling, gestational breast cancer, reproductive medicine, breast reconstruction, recurrence treatment, home care, family care, and supportive/palliative care



Annual Breast Cancer Surgeries
(mastectomy/ partial mastectomy)

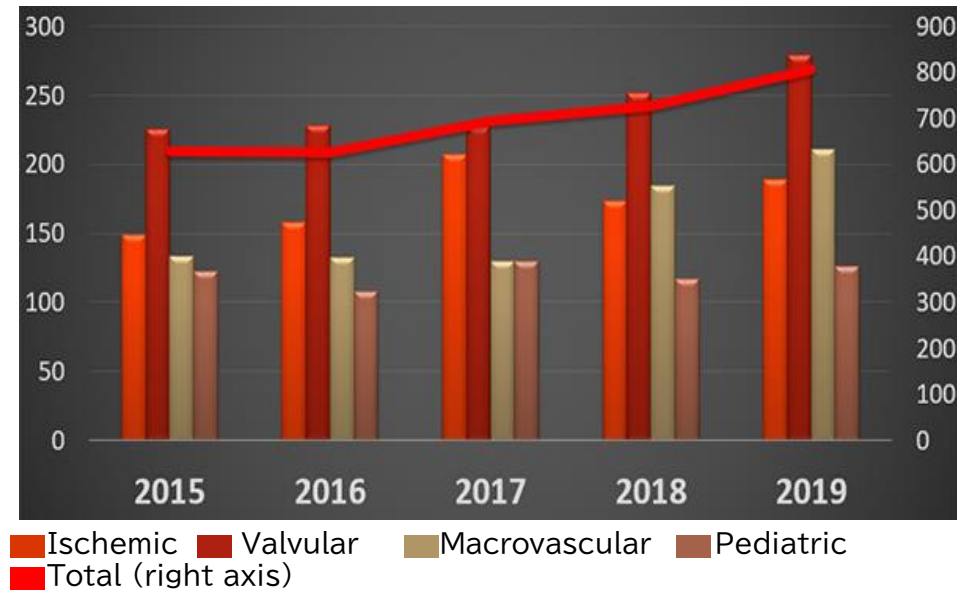
Cardiovascular Surgery

Target Disorders/Diseases

- ◆ Coronary artery bypass grafting (CABG)
- ◆ Reliable mitral valvuloplasty even for complex regurgitation
- ◆ Aortic arch replacement and stent grafting to facilitate early recovery
- ◆ Congenital heart diseases, peripheral vascular diseases, venous diseases
- ◆ A variety of minimally invasive cardiac surgeries

Features

- ◆ “No refusal” policy even for severe cases, with top surgical results in Japan
- ◆ Fast-track cardiac recovery protocols; walking and eating starting the next day
- ◆ Achieving pioneering results in coronary artery bypass surgeries using arterial graft off-pump surgery for diffuse lesions and low left ventricular function; trusted with the cardiovascular surgical care of Japan’s imperial family
- ◆ Pioneered TAVI and sutureless aortic valve replacement for high-risk cases of aortic valve stenosis
- ◆ Introduced the latest surgical techniques for obstructive hypertrophic cardiomyopathy



Annual Number of Surgeries (5 years)

Total of 831 surgeries performed in 2019
(126 pediatric cases, 705 adult cases)

General Thoracic Surgery

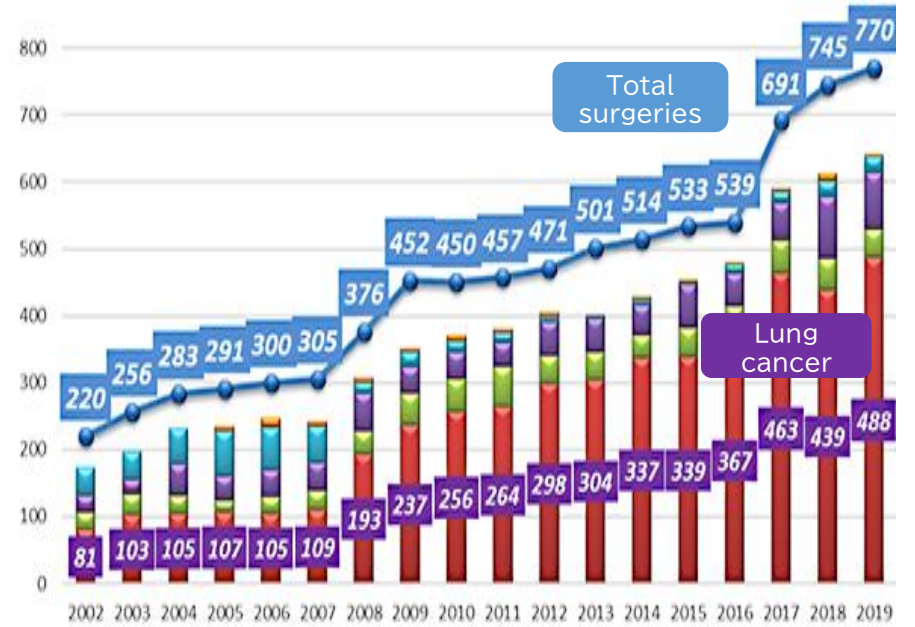
Target Disorders/Diseases

- ◆ Primary lung cancer, metastatic lung cancer
- ◆ Benign lung tumor (pulmonary hamartoma)
- ◆ Mediastinal tumor (thymoma, neurogenic tumor, etc.)
- ◆ Mesothelioma and more



Features

- ◆ Promising results with over 700 thoracic surgeries per year in Japan
- ◆ Performing da Vinci robotic surgery for lung cancer and mediastinal tumors
- ◆ Performing extended surgery for advanced cancers (bronchoplasty, etc.)
- ◆ Providing treatments for high-risk patients with comorbidities such as emphysema, angina pectoris, and diabetes mellitus



■ Lung cancer
 ■ Metastatic lung tumor
 ■ Mediastinal tumor
■ Emphysema
 ■ Mesothelioma
 —●— Surgeries in total

Surgical Procedures

Target Disorders/Diseases

- ◆ Brain tumor (meningioma, glioma, etc.)
- ◆ Cerebrovascular diseases (aneurysm, arteriovenous malformation, etc.)
- ◆ Functional neurosurgery (epilepsy, involuntary movement, normal-pressure hydrocephalus, etc.)
- ◆ Vertebrae/spinal cord surgery (spinal cord tumor, spinal disc herniation, etc.)
- ◆ Pediatric neurosurgery (pediatric brain tumor, congenital brain malformation, etc.)

Features

- ◆ One of the most well-established neurosurgery departments in the history of Japanese neurosurgery
- ◆ Having the highest number of brain tumor, functional neurosurgery, and endovascular treatment cases in Japan
- ◆ Emergency 24/365 response for stroke in collaboration with the Department of Emergency Medicine and the Department of Neurology; providing highly advanced medical technologies such as intraoperative MRI (iMRI)
- ◆ Pediatric neurosurgery covers a broad range from tumors to epilepsy and congenital malformations, and has one of the highest volume of cases in Japan
- ◆ Provides deep brain stimulation therapy for Parkinson's disease in collaboration with the Department of Neurology



Operating room with intraoperative magnetic resonance imaging (iMRI)

Clinical Procedure	2017 (FY)	2018 (FY)	2019 (FY)
Total	940	975	981
Brain tumor	231	242	236
Cerebrovascular disease (direct surgery)	33	44	44
Accidents/trauma	37	37	45
Congenital malformations	25	41	32
Hydrocephalus	89	71	78
Epilepsy	85	91	81
Vertebrae spinal cord	44	39	75
Brain Stimulation	73	103	91
Microvascular decompression	18	17	13
Endovascular	278	260	266
Other	27	30	20

Orthopedic Surgery and Sports Medicine

Target Disorders/Diseases

- ◆ Osteoarthritis (knee, hip, shoulder, ankle, hand, etc.)
- ◆ Spinal disorders (spinal canal stenosis, intervertebral disc hernia, spinal deformity, etc.)
- ◆ Sports-related injuries and disorders (shoulder, knee, ankle, etc.)
- ◆ Musculoskeletal tumors
- ◆ Hand trauma and deformities
- ◆ Metabolic bone diseases (osteoporosis, etc.)
- ◆ Rheumatoid arthritis

Features

- ◆ Physicians in our department are specialists in specific areas of orthopedic surgery and sports medicine
- ◆ All treatment methods are offered with profound knowledge of the advantages, disadvantages, and limitations
- ◆ Offering the most optimal options for all patients with locomotive organ diseases, providing safe, reliable, and advanced medical care



Surgical Procedures of 2019

Surgical procedure	Cases
Hand·elbow	347
Spinal	338
Knee	296
Musculoskeletal	287
Hip	202
Shoulder	200

Plastic and Reconstructive Surgery

Target Disorders/Diseases

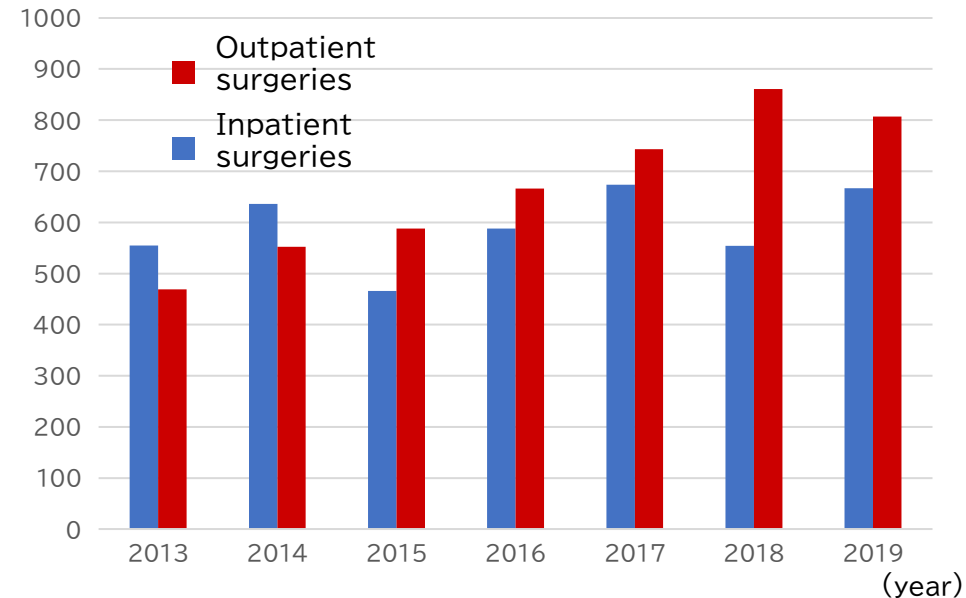
- ◆ Congenital anomalies (cleft lip and palate, polysyndactyly, craniosynostosis, etc.)
- ◆ Reconstruction after malignant tumor resection (head and neck, limb, breast, etc.)
- ◆ Intractable ulcers (whole body, mainly in lower limbs)
- ◆ Maxillofacial disorders (facial paralysis, etc.)
- ◆ Traumatic injuries (facial bone fractures, limb laceration, etc.)
- ◆ Anti-aging surgery (blepharoptosis, etc.)

Features

- ◆ Performing breast reconstruction that meets patient needs (autologous tissue or fat grafting/implants) in collaboration with the Department of Breast Oncology, which has one of the largest case volumes in Japan
- ◆ Performing surgical treatment for patients with congenital anomalies, including cranioplasty for craniosynostosis, in collaboration with the Department of Pediatrics and Neurosurgery
- ◆ Performing reconstruction after malignant tumor resection in collaboration with other departments, such as otorhinolaryngology, dermatology, and orthopedics
- ◆ Developing regenerative medicine options for treatment of leg ulcers



(surgeries)



Outpatient and Inpatient Surgeries Annually

Target Disorders/Diseases

- ◆ Alopecia areata
- ◆ Psoriasis
- ◆ Allergic atopic dermatitis
- ◆ Malignant skin tumors
- ◆ Autoimmune bullous disease and more

Features

- ◆ Inpatient treatment includes: semi-pulsed steroid therapy for alopecia areata; combination therapy of plasma exchange and intravenous gamma-globulin for pemphigus and severe drug eruption; UV therapy for atopic dermatitis; skin transplantation for congenital epidermolysis bullosa and intractable ulcer
- ◆ Providing combination treatments with regional immunotherapy, laser irradiation, low-dose oral steroids, PUVA·NB-UVB, and excimer therapy for alopecia areata

Outpatient Clinic Services (2019)

Average patients per day	280 patients
First-visit patients	2,785 patients
First visits with referral letter	1,524 patients

Inpatient Services (2019)

Discharged patients	309 patients
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Surgery/hospitalization (2019)

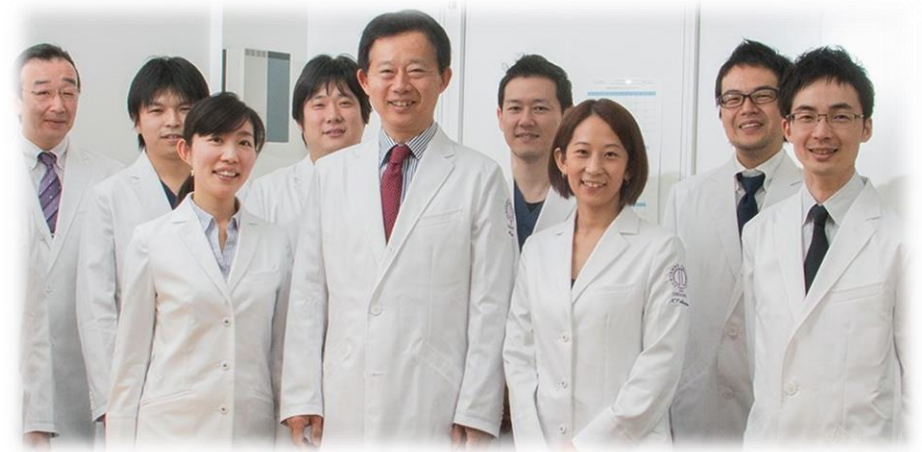
Benign skin tumor	84 cases
Malignant skin tumor	65 cases
Other (pyoderma, skin transplantation, etc.)	22 cases
Total	171 cases

Target Disorders/Diseases

- ◆ Kidney cancer, bladder cancer, prostate cancer
- ◆ Prostatic hypertrophy/dysuria
- ◆ Urinary incontinence/pelvic organ prolapse
- ◆ Polycystic kidney diseases, tuberous sclerosis
- ◆ Kidney transplantation

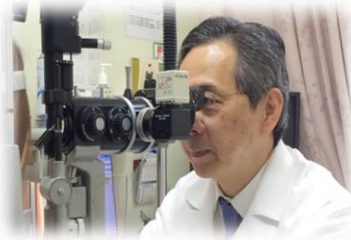
Features

- ◆ Performing robotic-assisted surgery for prostate, kidney, and bladder cancers, with the largest surgical volume in Japan
- ◆ Providing treatments for difficult-to-treat advanced cancers
- ◆ Providing the latest treatments for dysuria and pelvic organ prolapse
- ◆ Pharmacotherapy for intractable diseases such as polycystic kidney diseases and tuberous sclerosis
- ◆ Safely performing ABO-incompatible kidney transplantation



Target Disorders/Diseases

- ◆ Myopia/astigmatism
- ◆ Strabismus/blepharoptosis
- ◆ Cataract, glaucoma
- ◆ Corneal transplantation
- ◆ Retinal detachment, pigmentary retinal degeneration
- ◆ Vitrectomy for retina and vitreous
- ◆ Infectious eye diseases and more



Features

- ◆ Large volume of corneal transplantation surgeries with Juntendo Eye Bank, first established in Japan (1963)
- ◆ Being first to introduce contact lenses in Japan and actively providing specialized contact lenses care via the Contact Lens Clinic
- ◆ The only university hospital in Japan to have an outpatient clinic specializing in sports ophthalmology
- ◆ Treatments via Pediatric Ophthalmology Clinic for congenital strabismus in children, and Strabismus Outpatient Clinic for strabismus in adults
- ◆ Performing refractive surgeries such as PRK and LASIK for myopia and astigmatism patients



Numbers of Clinical Procedures (2019)

Inpatient surgery (age \geq 12 years)	Cataract	1,318 cases
	Glaucoma	192
	Corneal transplantation (femtosecond laser cases)	40 (4)
	Retinal detachment	220
	Vitrectomy (other than detachments)	297
	Other	65
Outpatient surgery (age \geq 12 years)	Strabismus/blepharoptosis etc.	144
	Cataract (day surgery)	140
Pediatric Ophthalmology surgery (age<12 years)	Strabismus/blepharoptosis etc.	187
	Cataract, glaucoma, retina and vitreous diseases, etc.	84
Excimer laser surgery	LASIK/PRK	0
	PTK	56
Total surgery cases		2,743

Otorhinolaryngology, Head and Neck Surgery

Target Disorders/Diseases(Groups)

- ◆ Ear diseases (chronic otitis media, cholesteatoma, otosclerosis, etc.)
- ◆ Nose diseases (chronic sinusitis, eosinophilic sinusitis, allergic rhinitis, etc.)
- ◆ Head and neck diseases (oral cavity/larynx/pharynx cancer, salivary gland cancer, thyroid cancer, paranasal sinus cancer, surgical treatments for Grave's disease, benign head and neck tumors, etc.)
- ◆ Others (sleep apnea syndrome, facial palsy, dizziness/vertigo, outpatient speech and language therapy)

Surgical Procedures in 2019

Surgical procedure	Cases
Tympanoplasty	50
Mastoidectomy	40
Endoscopic sinus surgery	135
Submucous resection of nasal septum	64
Lobectomy and subtotal/partial/total thyroidectomy	42
Parotidectomy	52
Transoral (for oropharyngeal/hypopharyngeal cancer)	47
Neck dissection	140
Lymph node biopsy	39



Features

- ◆ Facilitating multidisciplinary treatment for head and neck cancer including surgery/functional preservation surgery, radiation, and chemotherapy (anti-PD-1 antibody and intra-arterial injection)
- ◆ Performing endoscopic resection and skull base surgery for paranasal sinus tumors
- ◆ Performing minimally invasive surgery such as transoral robotic surgery (TORS) for oropharyngeal cancers
- ◆ Providing advanced medical treatments: carbon dioxide laser stapedectomy for otosclerosis; genomic sequencing and cochlear/bone-anchored hearing aid implantation for hearing loss
- ◆ Inferior turbinate argon plasma coagulation (APC) day-surgery for patients with mild allergic rhinitis

Radiology (Diagnostic Division)

- ◆ Performing diagnostic imaging tests requested by all departments using a variety of imaging technologies such as CT and MRI
- ◆ Providing imaging tests and radiologic interpretations to outpatients referred to us through medical network; having an outpatient clinic for interventional radiology



Diagnostic testing

- ◆ Consistent efforts from planning tests to transmitting high-quality reports to all departments internally
- ◆ Examinations in 2019 included 83,472 CTs, 47,050 MRIs, 4,796 ultrasounds, 6,129 nuclear medicine tests, 3,102 PET-CTs, and 394 angiographies

Interventional Radiology (IVR)

- ◆ Performing IVR procedures: prophylactic renal arterial embolization for renal angiomyolipoma; uterine artery embolization for uterine fibroids; and hepatic arterial chemoembolization for hepatocellular carcinoma and metastatic liver cancer
- ◆ Performing central venous port placement and mammotome breast biopsy; as well as cryotherapy for renal tumors since 2017

IVR Procedures in 2019 (FY) (Total: 588 cases)

Method	Cases
Central venous port placement	117
Mammotome biopsy	111
CT guided biopsy	50
Adrenal venous sampling (AVS)	41
Transcatheter (hepatic) arterial Chemoembolization	35
Uterine artery embolization (UAE) (for myoma/hemostasis)	31
Intra-arterial injection (anti-cancer drug, etc.)	30

Radiology (Radiation Oncology Division)

Target Disorders/Diseases

- ◆ Malignant tumors including breast, prostate, esophageal, lung, head and neck, and brain tumors; malignant lymphoma; and benign intracranial tumors
- ◆ Benign diseases such as keloids and thyroid eye disease

Features

- ◆ Providing treatments to cure cancer and improve cancer-related symptoms while preserving form and function
- ◆ Providing treatment plans for patients on an outpatient basis
- ◆ Providing advanced high-precision radiotherapy (intensity-modulated radiation therapy: IMRT), stereotactic radiotherapy (SRT), and image-guided radiotherapy (IGRT)
- ◆ Providing brachytherapy for prostate cancer and high-dose-rate intracavitary brachytherapy (HDR-ICBT) for uterine cancer



Radiotherapy procedures by system (2019FY)

System/body part	Cases
Breast	250
Urinary	155
Lung/mediastinal	108
Gastrointestinal	106
Head and neck	71
Hematopoietic	41
Gynecological	36
Central nervous System	31
Musculoskeletal	5
Other malignant tumors	10
Benign diseases	15
Total first-visit patients	828

Specialized treatments (2019FY)

Treatment	Cases
IMRT	233
SRT	47
Prostate brachytherapy	28
RALS	26
Total body irradiation	8

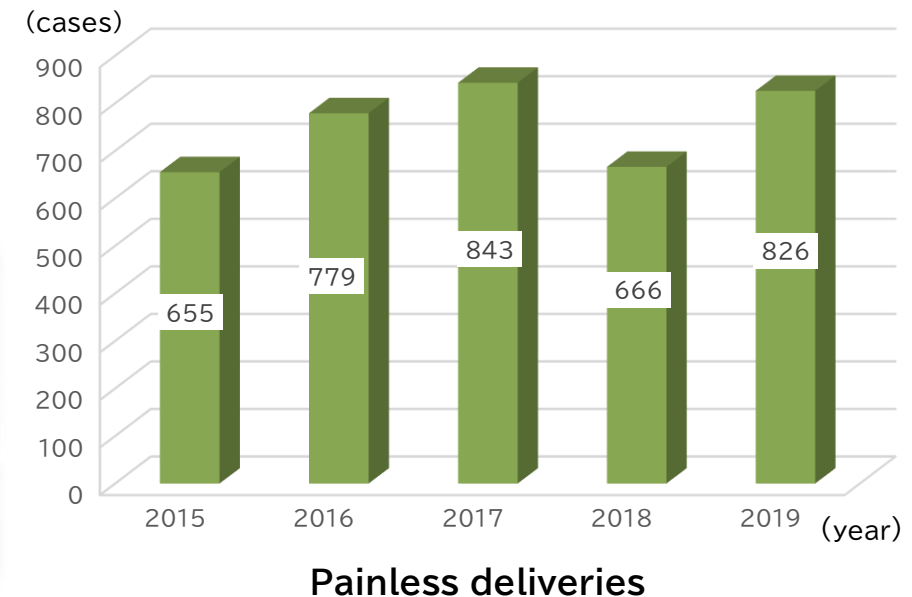
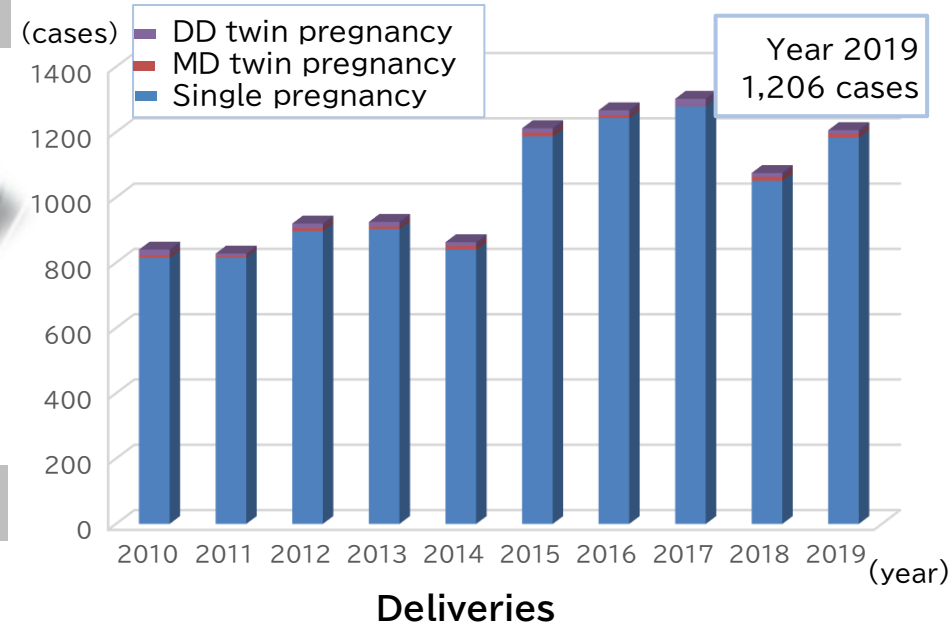
Target Disorders/Diseases

- ◆ Normal pregnancy
- ◆ Pregnancy and delivery with maternal complications
- ◆ Diagnosis and management of fetal anomalies
- ◆ Painless delivery and more



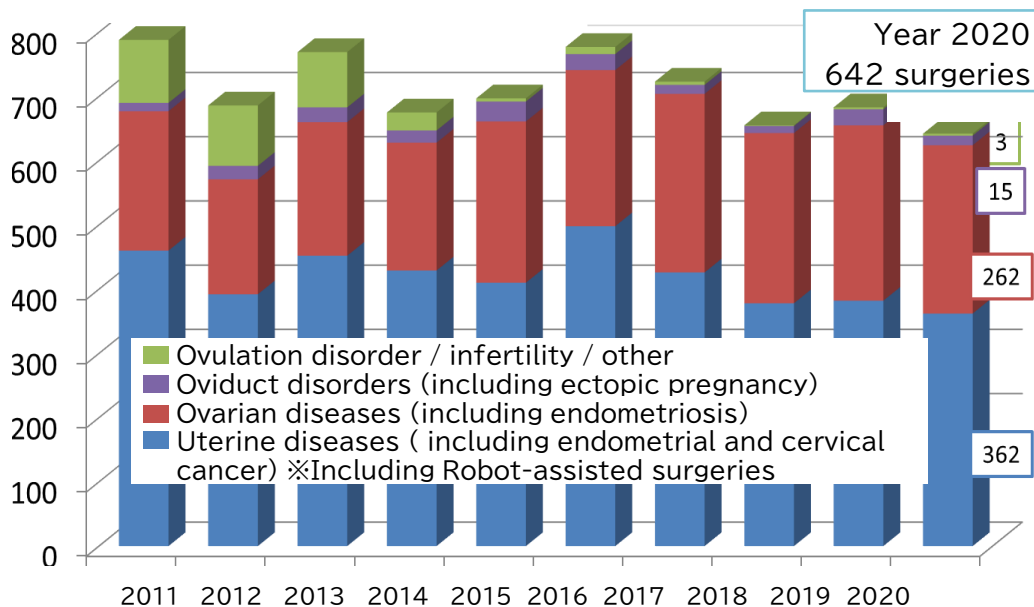
Features

- ◆ Designated as a regional perinatal medical care center by the Tokyo Metropolitan Government; actively accepting high-risk
- ◆ In cooperation with the Department of Anesthesiology for 24-h support of painless delivery
- ◆ Conducting researches regarding painless delivery safety, interventions for postpartum depression, markers of preterm birth, and analysis of the human genome for congenital diseases



Target Disorders/Diseases

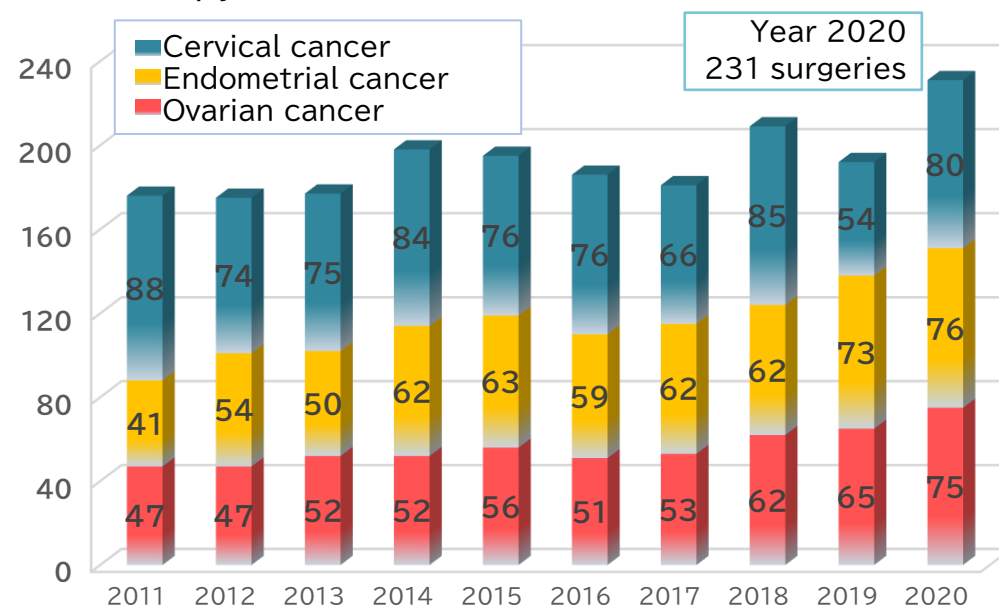
- ◆ Uterine fibroids, uterine adenomyosis
- ◆ Endometrial cancer, cervical cancer
- ◆ Ovarian tumors (benign and malignant)
- ◆ Menopause, women's sports medicine clinic
- ◆ Infertility treatment



Laparoscopic surgery cases by diagnosis

Features

- ◆ Largest number of laparoscopic surgeries in Japan
- ◆ Providing minimally invasive treatments for 85% of benign gynecological diseases
- ◆ Performing robotic-assisted surgeries for benign and malignant cancers (endometrial cancer, etc.)
- ◆ Providing multidisciplinary treatments combining surgery, chemotherapy, and radiation therapy



Malignant tumors (new cases)

Anesthesiology (Surgical Division)

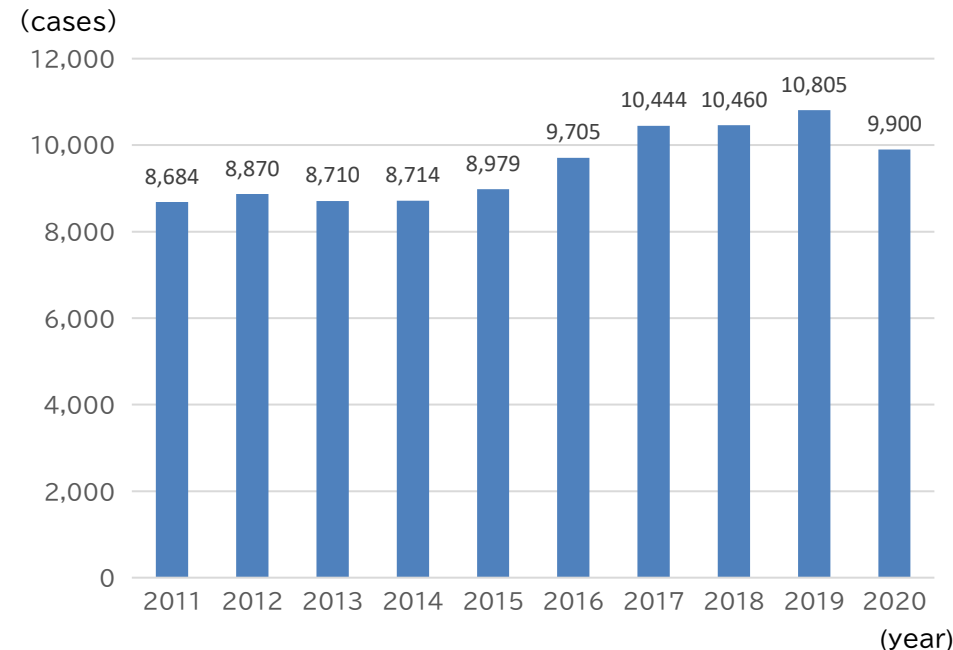
Target Disorders/Diseases

- ◆ Preoperative evaluation
- ◆ Surgical and anesthetic management
- ◆ Postoperative management
- ◆ Intensive care management
- ◆ Obstetric anesthesia (painless delivery)



Features

- ◆ Ensuring patient safety in all 23 operating rooms from planning and performing anesthesia to general postoperative care
- ◆ Providing anesthesiologists-led care in cooperation with other departments, nurses, clinical engineers, and other medical staff for patients requiring comprehensive postoperative care after major surgeries such as cardiac surgeries and for hospitalized inpatients in critical condition
- ◆ The obstetric anesthesia team is available 24-h/day to ensure painless delivery and support cesarean sections



Surgical Division
- Anesthetic management cases -

Anesthesiology (Pain Medicine Division)

Target Disorders/Diseases

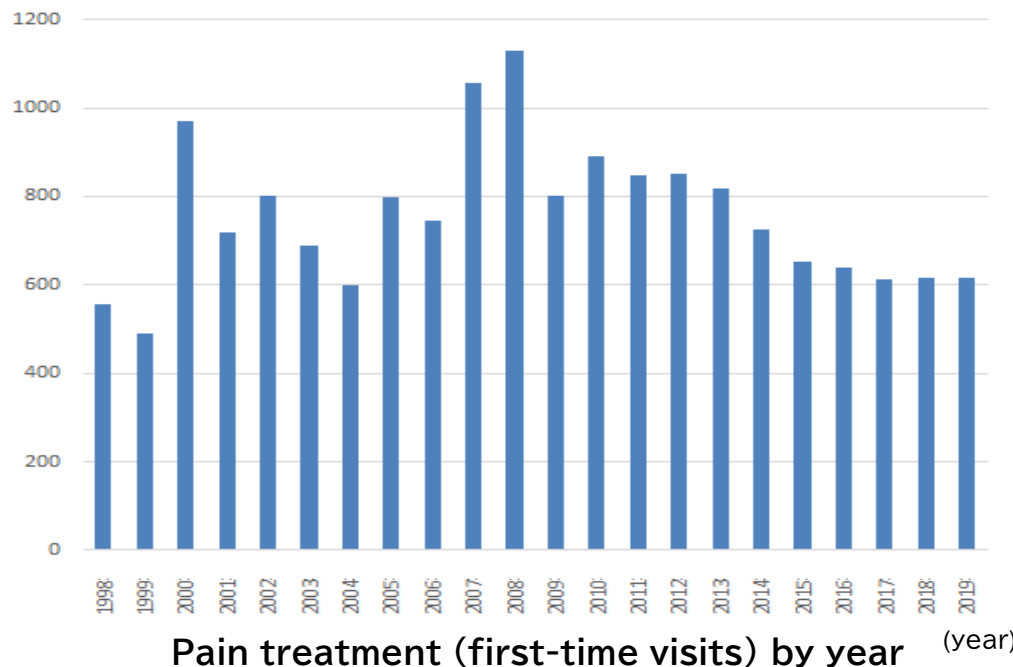
- ◆ Headaches, trigeminal neuralgias, and various types of postoperative pain
- ◆ Herpes zoster pain/post-herpetic neuralgia, diabetic neuropathy, and pain due to obstruction of blood circulation
- ◆ Spinal diseases
- ◆ Complex regional pain syndrome (RSD)
- ◆ Cancer pain, etc.



Features

- ◆ Providing minimally invasive treatments (nerve block, radiofrequency thermocoagulation, spinal cord stimulation, epidural endoscopy), that can be combined with pharmacotherapy and inpatient care
- ◆ Aiming to accurately and quickly relieve pain for diseases by providing minimally invasive treatments, such as trigeminal neuralgia, spinal disorders, herpes zoster pain, and cancer pain, using X-rays and ultrasonography
- ◆ Inpatient treatments include Gassel's ganglion thermocoagulation for trigeminal neuralgia; spinal cord stimulation therapy for intractable pain; and epidural endoscopy for lower back pain in patients who have undergone lumbar spine surgery

(cases)



Rehabilitation Medicine

Target Disorders/Diseases

- ◆ Motor paralysis/spasticity (paralysis of limbs)
- ◆ Gait disorders
- ◆ Dysphagia/brain dysfunction

Features

- ◆ Rehabilitation therapy including exercise therapy and physical medicine-based treatment such as electrical stimulation and transcranial magnetic stimulation
- ◆ Botulinum therapy for spastic movement disorders
- ◆ Aiming to achieve highest-possible quality of life by using a variety of medical rehabilitation devices utilizing the most advanced robotics and latest findings in neuroscience, as compensation for lost functions
- ◆ Developing *HANDS* therapy to improve upper limb function in hemiplegic stroke patients; disseminating the therapy worldwide
- ◆ Developing the advanced *FAST walk* to non-invasively stimulate gait neural circuits in the spinal cord in order to restore function



Rehabilitation Prescription Cases (2019)

By therapy	Physical therapy	5,934
	Occupational therapy	1,211
	Speech therapy	954
By disease	Cerebrovascular diseases	3,829
	Musculoskeletal	1,845
	Respiratory	495
	Cardiovascular	1,086
	Cancer	849
	Disuse syndrome	30

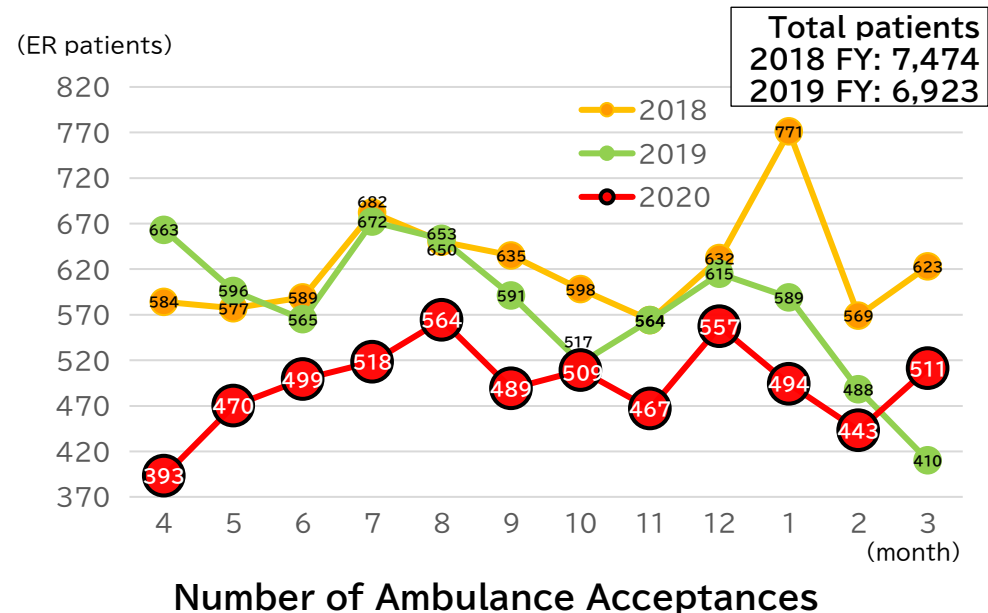
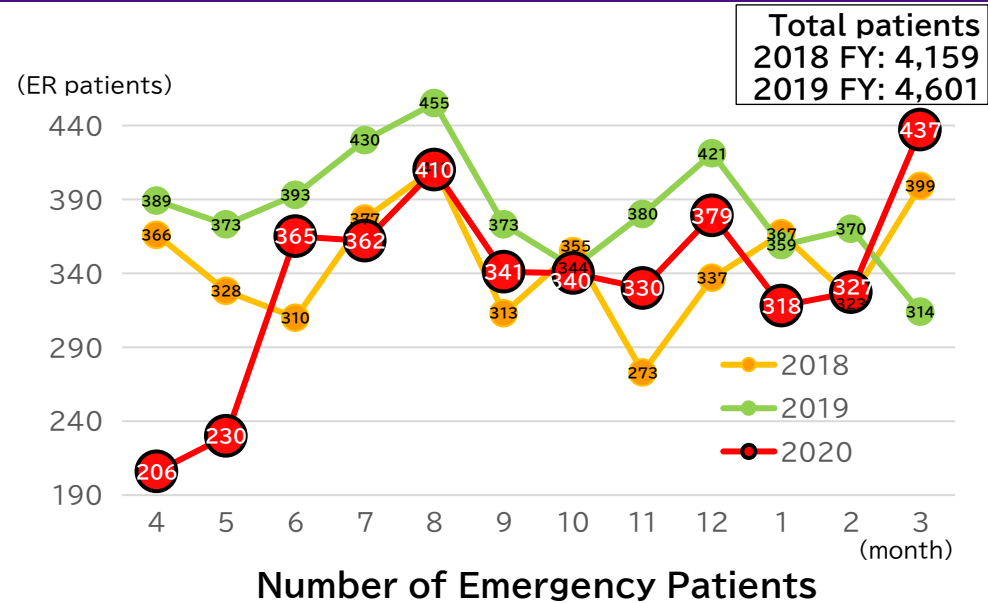
Emergency Medicine

Target Disorders/Diseases

- ◆ Emergency illnesses (cardiac arrest, injuries, poisoning, shock, sepsis, burns, heat stroke, anaphylaxis, etc.)
- ◆ Acute care (coma/impaired consciousness, dizziness, headache, fever, palpitations, chest pain, abdominal pain, nausea, diarrhea, etc.)

Features

- ◆ Designated as a secondary emergency medical care institution by the Tokyo Metropolitan Government, actively accepting patients per assigned roles in cooperation with local clinics and hospitals
- ◆ The department comprises members of the Department of Emergency and Disaster Medicine, and physicians from various other departments
- ◆ Responding to in-hospital emergencies per the rapid response system, with medical emergency team also functioning as consultants to other departments when patients become critically ill unexpectedly
- ◆ Coordinating high-care unit (HCU) admissions and discharges



Oral and Maxillofacial Surgery

Target Disorders/Diseases

- ◆ General dentistry and dental surgery for inpatients
- ◆ Tooth extraction, cysts, tumors
- ◆ Temporomandibular joint disorder, jawbone fractures
- ◆ Oral mucosal diseases, salivary gland diseases, inflammation
- ◆ Perioperative oral care
- ◆ Oral implants
- ◆ Sleep apnea

Features

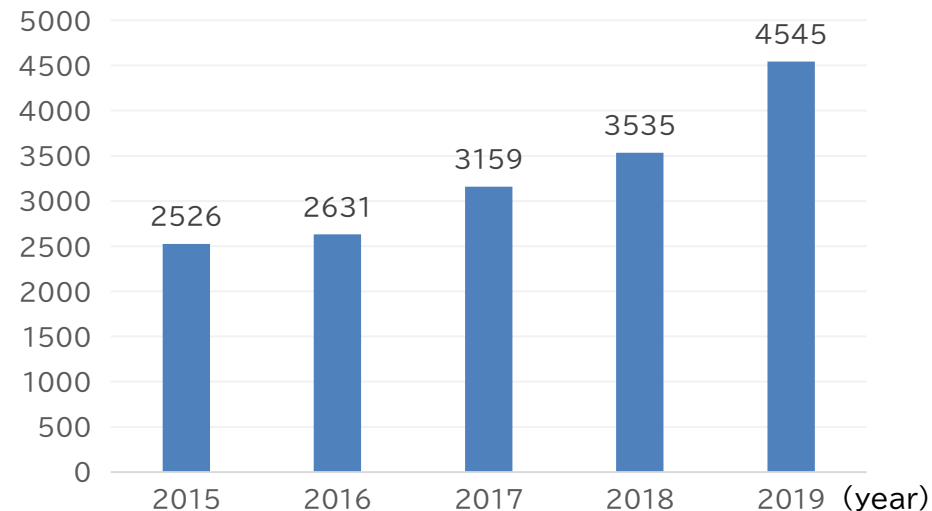
- ◆ Performing oral surgery for difficult tooth extractions, cysts, and implants in addition to general dentistry for inpatients
- ◆ Having established specialized outpatient clinics for dental implants, temporomandibular joint disorder, and sleep apnea
- ◆ Implant treatment achieving a high success rate (98.8%); providing tailored sleep splints for sleep apnea syndrome



Oral device for sleep apnea made by our department



(patients)



First-visit Patients

順天堂大学医学部附属順天堂医院

Juntendo University Hospital

順天堂大学医学部附属順天堂医院