

Shizuoka Cancer Center Hospital & Research Institute

Facility Guide 2023



1007 Shimonagakubo, Nagaizumi-cho, Sunto-gun, Shizuoka, 411-8777, Japan

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About the Shizuoka Cancer Center



For Patients, Their Families, and the Future

The Shizuoka Cancer Center administers cancer treatment under the banner of 'emphasizing the patients' perspectives', being based on three promises to patients and their families; we will skillfully cure cancer, support patients and their families, and our staff will continue to grow and evolve. Construction started in 1998, based on the original plans drawn up in 1995, and March 2002 saw the completion of the Shizuoka Cancer Center, consisting of the main hospital building, the Proton Therapy Facility, the Palliative Care Ward Annex and the Energy Center. Situated on a hilltop, we aim to form a reassuring landmark for local people. Almost half of the hospital rooms are for single occupancy, with the remainder serving two people.

Established

Established in the Name of the Governor of the Shizuoka Prefecture
Shizuoka Cancer Center Hospital
Shizuoka Cancer Center Research Institute Building
November 1, 2005

Qualified by

- The Japanese Association of Clinical Cancer Centers (Oct. 31, 2003)
- The Ministry of Health, Labor and Welfare as Advanced Treatment Hospital (Apr. 1, 2013) and as Classified Cancer Hospital (Aug. 24, 2006)
- The Japan Council for Quality Health Care (certification renewed on Jan. 6, 2014)
- The Japanese Nursing Association as Certified Nurse Educational Institution (Jan., 2013 for Breast Cancer Nursing, Nov., 2011 for Radiation Therapy Nursing, Nov. 6, 2009 for Palliative Care and Nov. 1, 2008 for Wound, Ostomy and Continence Nursing)

Awards

The Japan Cancer Society Special Award (Asahi Award) for "Patient Support and Inquiries,"
 Sep. 14, 2012

Factual Summary about the Shizuoka Cancer Center

1. Location: 1007 Shimonagakubo, Nagaizumi-cho, Sunto-gun, Shizuoka Pref.

2. Total Site Area: 131,047.95 m²

3. Facilities

Main Hospital Building, Palliative Care Unit (annex), Proton Therapy Facility, Radiation Therapy Wing (construction completed in June, 2015, and launched the operation in Nov., 2015), Energy Supply Center, Research Institute (opened in Nov., 2005), Administration Building (construction completed in 2009, and launched the operation in Dec., 2009), Staff Quarters, Nursery, Accommodations for the Pediatric Patients' Families

4. Facility Outlines

	Main Hospital Building	Palliative Care Unit (annex)	Proton Therapy Facility	Radiation Therapy Wing (including waiting room)
Site Area	14,180 m²	1,961 m²	2,687 m²	701 m²
Total Floor Area	66,492 m²	2,036 m²	4,792 m²	701 m²
Number of Stories	11 above grade,1 in the basement	2 above grade	4 above grade	1 above grade
Architectural Structure	steel-framed reinforced concrete	reinforced concrete	reinforced concrete	reinforced concrete

	Research Institute	Energy Supply Center	Admin. Bldg. (incl. corridor)	Total
Site Area	2,264 m²	1,646 m²	2,124 m²	25,563 m ²
Total Floor Area	8,289 m²	2,757 m²	9,712 m²	94,779m²
Number of Stories	4 above grade	3 above grade	5 above grade, 1 in the basement	_
Architectural Structure	steel-framed reinforced concrete	steel-framed reinforced concrete	reinforced concrete	_

^{*1} Total floor area of the main hospital building includes the parking with 7,564 m² in the basement.

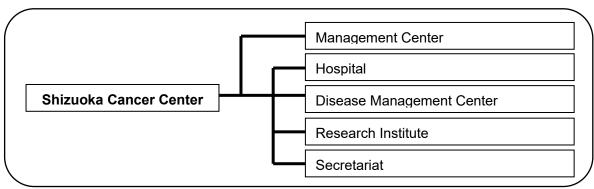
² The architectural structure of the waiting room building in the radiation therapy wing is steel construction.

Project Coast

(unit: thousand yen)

		projection for FY2020	projection for FY2021	projection for FY2022	total
Site Acquisition	SCC (122,512.08), off-campus parking areas, emergency heliport	0	0	0	4,236,222
Architecture Constructions		321,275	866,452	210,672	53,300,728
Hospital Facilities	main hospital bldg., palliative care unit, energy supply center, admin. bldg. radiation therapy wing, parking areas, etc.	271,115	375,859	72,402	41,088,374
Proton Therapy Facility	proton therapy equipment (syncrotron, rotating gantries, etc.) , facility building	50,160	455,312	138,270	7,496,904
Research Institute	Opened in Nov., 2005	0	0	0	3,499,3389
Nursery & others	staff quarters (60 homes), nursery, accommodations for patients' families	0	35,281	0	1,216,061
Instruments & Apparatuses		1,435,979	897,751	521,351	34,923,117
Medical Instruments & Apparatuses	medical instruments incl. PET, MRI, linac accelerators, etc. and furniture & fixtures incl. beds, etc.	1,183,282	737,000	411,776	25,574,274
Installing Medical Information System	structuring electronic health record system, and cancer treatment facility network	122,503	89,914	59,285	7,153,585
Laboratory Instruments	laboratory instruments, furniture & fittings	130,194	70,837	50,290	2,195,258
Total of Project Cos	ets	1,757,254	1,764,203	732,024	92,460,068

Organization Chart



Board of Directors

Pre	esident		Katsuhiko Uesaka, M.D., Ph.D.
Ма	Managing Director		Akihiro Uchida
	Director, Management Center		Naruhito Katsumata
		Director	Hiroyuki Ono, M.D., Ph.D.
		Deputy Directors	Hirofumi Yasui, M.D. Masashi Niwakawa, M.D., Ph.D. Masanori Terashima, M.D., Ph.D. Yasuhiro Tsubosa, M.D., Ph.D. Yuji Ishida, M.D., Ph.D. Izumi Suishu, R.N.
		Director of Nursing	Kumi Endo, R.N.
	Director, Dis	sease Management Center	Mitsuru Takahashi, M.D., Ph.D.
	Director, Re	search Institute	Yasuto Akiyama, M.D.
	Secretary General, Secretariat		Suguru Horikawa

President Emeritus	Ken Yamaguchi, M.D., Ph.D.
	Kenichi Tobisu, M.D., Ph.D.
Honorary Director	Sunao Tamai, M.D., Ph.D.
	Mitsuru Takahashi,M.D., Ph.D.

Our Basic Principles and Policy for Respecting Patients' Rights

Basic Principles

Emphasizing the patients' perspectives

Promises to Patients (Principles)

- 1. We cure and care cancer patients with skills.
- 2. We support patients and their families thoroughly.
- 3. We continue to grow and evolve.

Basic policies

1. We provide safety and the highest level of medicine as a highly-specialized medical institution for cancer.

- 2. We practice holistic medicine through thriving for dialogues with patients and their families.
- 3. We support each patient in a multidisciplinary team so that they can have the best and optimal medical care.
- 4. We provide fulfilling palliative medicine.
- 5. We firmly retain an attitude to learn from the patients and their families.
- 6. We enhance cooperation with the local communities and support the patients together with them.
- 7. We, as the Shizuoka Cancer Center, all work together to promote the advancement and research for newly-developed cancer medicine.
- 8. We comprehensively promote the cancer control program developed by Shizuoka Prefecture as a designated cancer hospital.
- 9. We foster human resources who can be contributing to the advancement of cancer medicine.
- 10. We constantly make management efforts for the ongoing growth.
- 11. We promote the Pharma Valley Project, aiming at the vitalization of the medical and healthcare industry of the region.

FACILITY INFORMATION

Wards and Beds

		Number of Beds								No. of Total Beds		
Wards		2002 Sep.9~	2003	2004	2005	2006~ 2008	2009~ 2011	2012~ 2014	2015	2016	2017~	
Total wards and beds	16	313	403	465	509	569	569	589	606	611	615	
General wards	12	240	324	384	420	480	480	492	528	533	504	
Palliative Care Units	2	34	34	34	42	42	42	50	50	50	50	
GICU (General ICU/High Care Unit)	1	14	14	14	14	14	14	14	28	28	28	

Hospital

Number of Divisions: 41 Clinical Departments

Neurosurgery, Head and Neck Surgery, Thoracic Surgery, Esophageal Surgery, Gastric Surgery, Colon and Rectal Surgery, Hepato-Biliary-Pancreatic Surgery, Breast Surgery, Multidisciplinary Therapy for Breast Cancer, Breast Oncology, Gynecology, Urology, Ophthalmology, Dermatology, Plastic and Reconstructive Surgery, Orthopedic Oncology, Dentistry and Oral Surgery, Gastrointestinal Oncology, Thoracic Oncology, Clinical Oncology, Stem Cell Transplantation, Pediatrics, Nephrology, Endocrinology and metabolism, Palliative Medicine, Cardiology, Infectious Diseases, Rehabilitation Medicine, Psycho-oncology, Neurology, Anesthesiology, Critical-Intensive Care (CIC), Endoscopy, Diagnostic Radiology, Interventional Radiology, Clinical Physiology, Radiation Oncology, Proton Therapy, Pathology etc.

Major Medical Facilities

- Proton-beam Treatment Facility
- Three Robotic Surgical Systems "da Vinci"
- Four Linac Radiotherapy Systems Including three "True Beam"
- 320-Row Multi-detector Computed Tomography Scanners
- Two 3.0 Tesla Magnetic Resonance Imagining System
- Two PET-CT Diagnosis Equipment
- IVR-CT Equipment (320 Rows)
- Palliative Care Unit (50 Beds in 2 Wards)
- Chemotherapy Center (54 Beds), Supportive Care Center
- Division of Endoscopy (10 Examination and Treatment Rooms, 2 X-TV Rooms and 30 Beds in the Recovery Room)

Number of Staff (as of April 1, 2023) 2,300

· doctor/dentist: 257

nurse: 760 assistant nurse: 67

pharmacist: 72 assistant pharmacist: 10

· clinical laboratory technician: 57 assistant technician: 16

clinical radiologist: 53 medical physicist: 6 assistant radiologist: 3

• physical therapist, occupational therapist, and speech therapist : 20

medical engineering technologist: 10 managerial dietitian: 9 dental hygienist: 8

• health information manager : 6 assistant health information manager : 22

medical social worker: 9 psycho-examiner: 3 child life specialist: 3

· genetic counselor: 2 assistant genetic counselor: 2

biostatist,etc.: 6other medical staff: 5administrative staff: 202

· researcher at the Research Institute : 32 (including hospital staff)

• outsourced medical processor, supply & distribution service, security guard, receptionist, etc. : 627

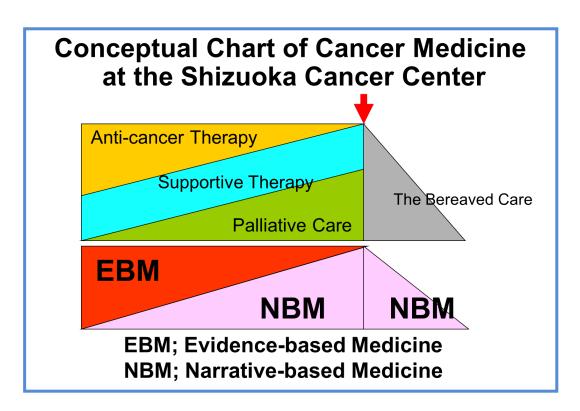
Cancer Medicine Principles at the Shizuoka Cancer Center

1) What we do to fulfil one of the promises to patients, "We cure and care cancer patients with skills

At the Shizuoka Cancer Center, we aim to practice medicine emphasizing patients' and their families' perspectives. When it comes to cancer medicine, what often happens is that only a pathological abnormality called cancer is focused on. However, a cancer patient is indeed a person with body and soul who has happened to have a disease called cancer. At the SCC, holistic medicine, which is to focus on a patient as an emotional being, is pursued.

Cancer medicine offered at the SCC can be divided into four categories; "anti-cancer therapy," "supportive therapy," "palliative care" and "the bereaved care." Anti-cancer therapy consists of three mainstays, that is, surgery, radiotherapy and chemotherapy. Multidisciplinary medical team tackle cases for complete cure of the disease, as well as cases for living with cancers when distant metastases are developed. At the same time, we offer supportive therapy to improve quality of life (QOL) of a patient by easing side effects, complications and aftereffects of cancer treatment. Palliative care covers controlling cancer pains and making the last moment of life as peaceful as possible. The bereaved care is given when necessary after the passing of a patient.

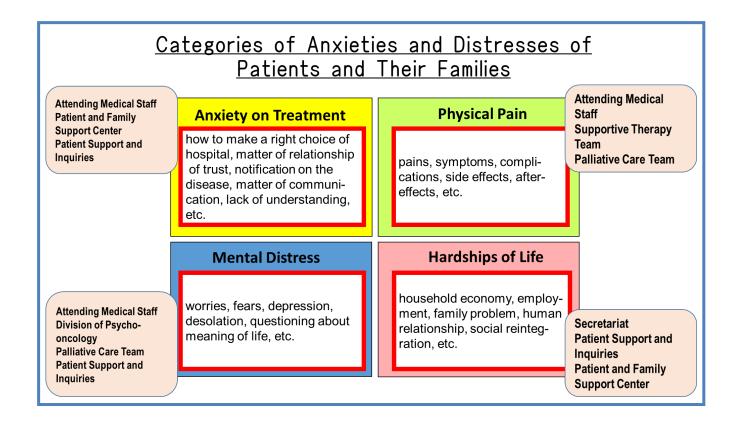
For cancer medicine, basically the evidence-based medicine (EBM), which is to practice medicine based on medical and scientific evidences, is what is given the first priority. However, from a certain moment on through the course of cancer treatment, a medical care to focus on conversations with a patient and his/her family and their feelings will be needed. We call it the narrative-based medicine (NBM).



2) What we do to fulfil one of the promises to patients, "We support patients and their families thoroughly."

Cancer patients and their families often encounter various anxieties and distresses through the course of treatments. At the SCC, we have learned from various surveys and our experiences at the "Patient Support & Inquiries" office to come to categorize the anxieties and distresses into four groups; "anxiety on treatment," "physical pain," "mental distress" and "hardships of life." For each category, there is an eligible department ready to support them without hesitation.

For any anxieties about cancer treatment, you can go to the attending doctor and nurses, the Patient Support and Inquiries and the Patient and Family Support Center. If you are not happy about their supports, there is an office specialized in dealing with criticism. For physical pains, the attending doctors and nurses will basically take care of them, but a team of specialists will join when necessary. For outpatients, the Patient and Family Support Center will help them with pains. For mental distresses, the Division of Psyco-oncology and the psychotherapists will be in charge, in addition to the attending medical staff. For hardships of life, you can go to the administrative staff as well as the certified social workers at the Patient Support and Inquiries.



FACILITY GUIDE & FEATURES

Patient Support & Inquiries

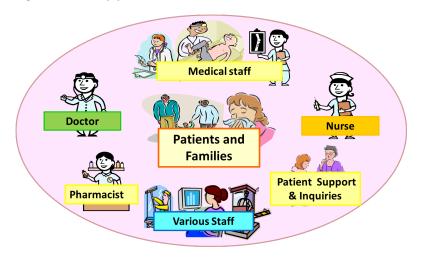


At the Shizuoka Cancer Center, we established the Patient Support & Inquiries to respond to the fears and anxieties of patients and their families. Dedicated medical social workers and nurses listen to the patients, think with them, and help resolve their difficulties. Please speak to Patient Support & Inquiries if there is anything unclear about the course of treatment or cancer checkups. Those who cannot speak Japanese are requested to bring their interpreters.

The Shizuoka Cancer Center provides a library for patients, their families and the local people of Shizuoka called the Asunaro Library. Those who have registered with the library can borrow books. ID card will be needed in order to register, and your library card will be issued straight away. It carries about 7,900 books, 1170 videos & DVDs and other audiovisual software, magazines about cancer and other tittles, and also provides 17 newspapers.



Multi-disciplinary Team Approach



We provide multidisciplinary medical team care.

The team is comprised of doctors and nurses and co-medical staff etc.

We provide the best services with each job responsibility.

Proton Beam Therapy

Proton beam therapy is a form of corpuscular radiation therapy in which the diseased area is irradiated with protons (hydrogen atoms that have had their electrons removed).

I Appraisals of disease and indications
Patients who can undergo proton therapy are those with cranial (ear or nose cancer), non-small-cell lung cancer, prostate gland cancer or other solid cancers.

The consultant group examines whether or not there are any indications. Prerequisites for treatment are a clinical significance in localized treatment and the fulfilling of certain medical technology conditions. A decision as to whether or not treatment is suitable will be made based upon the criteria of each disease and the patient's clinical history.



II Treatment costs

Our proton therapy was officially certified as a sophisticated advanced treatment by the Ministry of Health, Labor and Welfare of Japan in January 2006. The basic charge for proton therapy is 2,400,000 yen. The ceiling cost for proton beam therapy (basic cost plus radiation fee) is 2,800,000 yen.

(Any treatments required other than proton beam therapy will be covered by Japanese public medical insurance.)



Palliative Care Unit

Palliative care improves the quality of life for patients and their families who face life-threatening illness, by providing pain and symptom relief, spiritual and psychosocial support from diagnosis throughout the course of illness.

The Child Life Specialists provide unique support for children whose parents are cancer patients with serious conditions.





We have 50 private patient rooms in Palliative Care Unit including 25 in the annex. They have been designed to provide a suitable environment in line with the wishes of families.

The Annex, which is built mostly with wood, has a warm atmosphere, and includes a multi-purpose hall, a Japanese-style room and a garden. Each patient can access to the terrace.

Hospital with Art & Gardens

Surrounded by trees and plants forming a natural garden, we seek to create space where people can relax. Patients can listen to the sound of water trickling down from the little waterfall in the central garden, or the trees rustling in the wind, and can also enjoy sunlight as they stroll around.





Shizuoka Cancer Center Research Institute

In the fall of 2005, a new building of the Research Institute was established adjacent to the Hospital to achieve the Research Institute's three missions: development of new medical technology for cancer treatment, development of new tools to support patients and their families, and promotion of the Mt. Fuji Pharma Valley Project.

The Pharma Valley Center, which is affiliated with the Shizuoka Organization for Creation of Industries, also sets up in the Research Institute to play an important role for the project.



All staff members at the Shizuoka Cancer Center, not only those in the Research Institute, actively engage in R&D. The abilities and experiences of the Center's hundreds of healthcare professionals are an important intellectual asset. Patients' comments and requests are actively incorporated, and ethical standards are strictly maintained.

CLINICAL PROFILE 1

	FY2018	FY2019	FY2020	FY2021	FY2022
Outpatient Hospital Visits	319,400	331,011	327,780	338,426	347,641
New Patients	7,677	7,517	7,010	8,044	8,299
Cancer Registries	6,771	6,872	6,537	6,820	-
Admissions	15,070	15,202	15,105	15,536	15,542
Rate of unit operation	81.8%	83.2%	74.9%	79.2%	81.7%
Patient support & Inquiries	13,553	13,502	12,510	13,584	14,263
Therapy					
Operation(Number of Patients)	4,736	4,786	4,595	4,690	4,458
general	2,018	2,229	2,208	2,378	2,222
general + epidural	1,629	1,531	1,429	1,387	1,350
spinal	405	367	356	339	335
epidural	108	98	81	75	51
others	78	51	39	35	35
Chemotherapy (Number of Patients)	3,656	3,851	4,042	4,171	4,216
Radiotherapy(Linac) (Number of Patients)	1,714	1,896	1,792	1,795	1,824
Brachytherapy (Number of Patients)	55	58	46	44	50
Proton Beam Therapy (Number of Patients)	186	165	156	135	148
Brachytherapy (Number of Patients)	185	191	156	150	169
Interventional Radiology	2,169	2,093	2,109	1,992	2,119
Diagnostic					
X-ray	49,396	53,033	48,740	49,363	49,901
CAT scan	36,075	37,492	37,002	37,792	38,841
MRI	11,439	11,646	11,383	11,506	11,460
PET	4,073	4,238	4,157	4,249	4,346
angiography/IVR	1,161	1,178	1,723	2,143	2,390
nuclear medicine	1,249	1,136	959	927	853
mammography	4,409	4,519	4,655	4,802	4,835
Intraoperative rapid diagnosis	1,519	1,516	1,418	1,362	1,288
Biopsy	12,765	12,573	11,866	12,101	12,147
Pathological diagnosis of surgical materials	4,836	4,768	4,541	4,680	4,508
Autopsy	6	6	4	3	6
Cytodiagnosis	13,116	12,619	12,075	11,997	11,808

CLINICAL PROFILE 2

•Number of Patients received operation or treatment in operating room by division

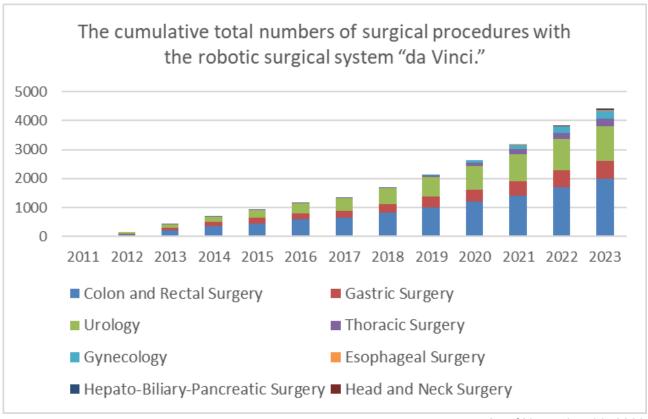
	FY2018	FY2019	FY2020	FY2021	FY2022
Neurosurgery	121	127	151	170	161
Head and Neck Surgery	424	420	421	485	443
Thoracic Surgery	434	466	437	427	426
Esophageal Surgery	58	104	74	71	63
Gastric Surgery	385	383	323	315	323
Colon and Rectal Surgery	703	725	645	708	659
Hepato-Biliary-Pancreatic Surgery	402	380	414	416	399
Breast Unit	421	435	438	437	361
Gynecology	453	437	415	434	351
Urology	601	544	581	552	565
Ophthalmology	51	71	49	56	64
Dermatology	208	192	190	184	220
Plastic and Reconstructive Surgery	155	140	116	113	140
Orthopedic Oncology	289	271	239	266	264
Oral Surgery	25	24	29	29	12
Stem Cell Transplantation	4	10	14	4	6
Pediatrics	0	1	0	0	0
Palliative Care Medicine	0	0	0	0	0
Anesthesiology	1	0	0	0	0
Endoscopy and Gastrointestinal Oncology	1	0	3	0	1
Diagnostic Radiology	0	0	0	0	0
Radiotherapy	0	56	56	23	0
Breast cancer multidisciplinary treatment	0	0	0	0	0
Total	4,736	4,786	4,595	4,690	4,458

• The 92-94% of total patients in above are received operation in surgery room.

CLINICAL PROFILE 3

•Numbers of surgical procedures with the robotic surgical system "da Vinci."

clinical division	principal disease	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	Sum total
Colon and Rectal Surgery	rectal cancer	10	63	149	131	109	121	77	171	187	195	207	289	287	1996
Gastric Surgery	gastric cancer	4	32	51	55	55	35	7	57	59	61	68	84	59	627
Urology	prostate cancer		41	65	69	75	97	88	123	113	136	134	139	98	1178
Thoracic Surgery	mediastinal tumor, etc.			1	3	0	4	3	13	39	43	59	62	45	272
Gynecology	endometrial cancer									48	50	63	56	49	266
Esophageal Surgery	Esophageal cancer											8	9	5	22
Hepato-Biliary - Pancreatic Surgery	Pancreatic body and tail resection												3	12	15
Head and Neck Surgery	Head and Neck Surgery cancer												3	24	27
total		14	136	266	258	239	257	175	364	446	485	539	645	579	4403



As of November 30, 2023

Topics

(The dates mentioned in the following topics stand for when the press releases were originally issued. Please note that the names and the titles included in the articles are of those times.)

The SCC Launches on the World's First Clinical Study for Autonomous Surgery with "hinotoriTM," a Surgical Robot Made in Japan (December, 2023)



As the number of surgeries assisted by the surgical robot systems has been increasing, the SCC entered into a contract for a joint comprehensive study with Medicaroid Corporation (production & sales) and Sysmex Corporation (sole distribution). This enables several clinical divisions including Div. of Colon and Rectal Surgery to launch on the clinical study developing practical functions of the surgical robot "hinotoriTM." They are studying to see whether it will be practically possible to make a surgery autonomous (i.e., sectionally automated) by analyzing the image data obtained from endoscopy and the operational log of the robot during the surgeries. Study on the possibility of making a surgery autonomous with "hinotoriTM" has not been done before, which makes this clinical study the world's first one. It is highly expected that once the movements of "hinotoriTM" are safely fixed via this clinical study, a big step forward will be made toward a practical use of the surgical

robot system for supporting surgeons during surgeries and making a robotic telesurgery possible in the future.

Window for Consultation on "Appearance Care" Opens (December, 2023)

"Changes in appearance" due to the progression of cancer or cancer treatments can be quite distressing psychologically and socially for cancer patients, as they often feel uncomfortable at work or school worrying about how they look in the eyes of others and not being able to talk to them just as before. Supporting patients for their "changes in appearance" has been already handled as a part of the supportive therapy (i.e., therapy for side effect from a cancer treatment) at various clinical sites including the outpatient clinics, the Chemotherapy/Supportive Therapy Center, and the Radiation and Proton Therapy Center. They have been making efforts to support the patients to retain their own selves and live their lives connecting with the society, but the need for a department specializing in "appearance care" was increasing. This time, a consultation window for it has opened at the Disease Management Center, which is expected to be even more helpful for the patients.

Released the 20th Anniversary Commemorative Book (March, 2023)

As a part of celebration for the 20th anniversary of the Shizuoka Cancer Center, "the Commemorative Book for the 20th Anniversary of the Shizuoka Cancer Center and the Pharma Valley Project: The Challenge Toward Ideal Medicine" (in Japanese only) was published at the end of FY2022. This



comprises the history of the SCC and the PVP from the preparatory stage to today. In 1994, only 3 people including officers of the Shizuoka prefectural government started the project from scratch, and now the SCC has grown to be one of the 3 major cancer hospitals in Japan. The book contains articles written by Dr. Ken Yamaguchi, the President (currently President Emeritus) of the SCC who has been leading the SCC and the PVP since the very beginning, as well as 156 staff including doctors, nurses, other healthcare professionals, researchers, officers from the prefectural government and others, many photos, the history chart, and valuable documents. It took 6 months for the preparation. The book is in size A4, color, and consisting of 384 pages.

Looking Ahead to the Era with a 100-Year-Long Lifetime: The Pharma Valley Project Comes Up with an Idea for a Dream Housing for the Elderly (February, 2021)

The Pharma Valley Center opens a model room to show their conceptual approach to an idealistic housing for the elderly focused on a theme "the 3-Step-Access Home for an Autonomous Life."

The Pharma Valley Center is to open their conceptual model room as their first step for projecting "the housing for the elderly in the era with a 100-year-long lifetime" on the 1st floor of their headquarters on March 5, 2021. The model room is designed with a theme "the 3-step-Access



Home for an Autonomous Life," and is scheduled to be open to introduce the basic concepts and the design details that day, when the "Shizuoka Cancer Congress 2020" is opening. It is going to be open for public including all the citizens of Shizuoka prefecture as well as the professionals in health care, caregiving to the elderly and welfare, the public administrational officials, the industries, the researchers and the

banking institutions. The purpose for opening it for public is based on their wish to invite all the people to raise better ideas for building ideal homes for the elderly preparing for the super-aging society.

"The Patient and Family Support Center" expanded with more functions for supporting patients (June, 2017)



When you wish to retain your own lifestyle even after being diagnosed with cancer, you will need to understand very well beforehand about what will happen to you in the course of cancer therapy finance-wise, daily-life-wise and of course, health-wise including side effects from cancer treatments.

At the SCC, "the Patient and Family Support Center" opened in April, 2012, which has led to the openings of other

patient-support-oriented facilities including "the Patient Support & Inquiries," "the Chemotherapy Center," "the Support Therapy Center" and "the Palliative Care Center." Now, in order to support the cancer patients even further, it has been expanded its functions for providing them with helpful

information and emotional supports. This is the closest to what the SCC originally wished for the ideal "Patient and Family Support Center" when it first started.

Information which cancer patients would like to have can be obtained quite easily via AV and internet on the computers installed there. Additional private consultation rooms, as well as an expanded space in the waiting room which could be accommodated for a study session or a meeting with medical staff from the community, have been built to accomplish the ideal place and system for supporting patients.

At the newly developed "Patient and Family Support Center," one of the major purports of "the 3rd Term Cancer Control Programs," "Living with Cancer" is being aimed and pursued. In order to make it happen, we try to face off against the 4 basic burdens which cancer patients would bear, "anxiety about cancer treatment," "physical distress," "mental distress" and "strain on life." This is the core facility for supporting patients and their families who try to live with the disease.

Division of Clinical Cancer Genetics Opened (December, 2016)

At the SCC, in response to the coming age of next-generation genomic medicine, gene information has been collected from all the cancer patients who have taken surgeries there and the research studies have been conducted for clinical application of the information since January, 2014. The efforts were proven when the study team announced for the first time in Japan that about 1% of the whole cancer patients had genetic mutations for hereditary tumors. The announcement also proved the immediate needs for medical care for hereditary tumors. Moreover, it has been proved that learning about hereditary tumors would be quite useful for cancer prevention and early detection, and as a result, would influence on the choices of treatment and care methods. Therefore, at the SCC, clinical genetic specialists and certified genetic counselors have been providing medical care for outpatients since December, 2011. It has brought about the opening of the "Division of Clinical Cancer Genetics," where not only the patients and their families at the SCC but everyone who wishes to take a counseling on cancer heredities or a genetic test can come in for the care. At this Division, cancer risks for the whole family including the visiting patient will be assessed, and accurate knowledge and advices for various fields will be given toward practicing "predictive medicine," early detection and optimal treatment.

Japan's First "Supportive Therapy Center" Opened (September, 2016)

At the SCC, supportive therapy, which is to give preventive care and treatment for intolerable symptoms of cancer and side effects from treatment, has been practiced as one of the three therapeutic principles in addition to anti-cancer therapy and palliative care since when it started in 2002. What is offered at the "Supportive Therapy Center" includes collaborative care and guidance with the Divisions of Rehabilitation Medicine and Oral Surgery, producing informative brochures and videos on what patients need to know



before starting cancer treatments, and placing them where patients can easily access to.

In order to practice "supportive therapy" in more patient-friendly manners, a part of the Chemotherapy Center was remodeled and the office previously called the treatment center was rebadged as the "Supportive Therapy Center" on August 29, 2016. Since then, about 65 patients a day have come to visit the center. The Supportive Therapy Center integrates all of the supportive therapies practiced at various clinical departments in the SCC, and also supports

patients taking cancer treatments while living at their homes, as the activities of the center are basically focused on alleviating "physical pains" to support living with the disease.



The newly-remodeled center is designed to protect patients' privacies with 14 beds in private treatment rooms and 2 beds in the private consultation rooms. Full-time nurses and well-trained certified nurses are there to help patients, and collaborative supports with the Patient and Family Support Center, oncology specialists and nurses, dieticians, pharmacists, the rehabilitation team and the oral care team are also available there. When inquiries about how to handle medical equipment or how to control eating, clothing and housing during cancer therapies, the guidance and directions will be provided not only for patients and their families but also for home-visiting nurses.

Japan's First "AYA Generation Ward" Opened (January, 2016)

Young patients aged from mid-teens to early thirties are called the "AYA Generation1." Cancer patients of this generation are usually taken care of at the clinical dep artments for pediatric cancer or for adult-typed cancer at most medical institutions in Japan. As they do not really belong to either, voices for improvements have been raised to prepare medical facilities where generations from childhood to AYA or from AYA to adulthood can take continuous cancer treatments. At the SCC, as a response to those voices, the "AYA Generation Ward" for cancer patients of this generation opened in June, 2015.

Cancer patients in the AYA generation are featured as follows: 1. Pediatric type of cancer and adult type are detected as mixed in the patients of this generation, as pediatric type is sometimes detected among the AYA generation, while adult type can also arise among them. Their primary cancers can often be detected in multiple organs. 2. The improvement index of the five-year survival rate (median annual improvement index of the five-year survival rate from 1975 to 1997), which is taken as a reference to prove advancement of cancer medicine, is extremely low for the AYA generation when compared with other generations2. 3. Public subsidy system for medical services for young generations, e.g. pediatric chronic specific disease subsidy system, doesn't apply for patients aged older than 20, while public long-term care insurance doesn't apply for patients aged younger than 40, either. It means patients in the AYA generation don't have much social aid when it comes to long-term medical care.

Moreover, the number of cancer patients in the AYA generation is comparatively small, which results in a fact that cancer treatments to meet the above-mentioned features haven't been developed yet and they are not integrated well enough. Therefore, with the "AYA Generation Ward" prepared for the specific needs of the patients in this generation, the optimal cancer treatment and care will be offered

until the day when they leave the ward and get back to their own lives, as the goal of the ward remains as offering the "best-suited medical care for the AYA generation."

- 1. AYA generation: Adolescent and Young Adult. The definition of the word varies, but in most cases, it covers people from 15 to 29 years old.
- 2. Average Annual Percent Change (AAPC) in 5-year Relative Survival for All Invasive Cancer, SEER 1975-1997: Cancer Epidemiology in Older Adolescents and Young Adults 15 to 29 Years of Age, 13, Figure 1.28.

The Radiotherapy Wing Completed (June, 2015)

As the number of cancer patients taking radiotherapy has kept on increasing at the SCC, a new Radiotherapy Wing has been built adjoining the Proton Therapy Facility. For this newly-built facility, the brand-new cutting-edged radiotherapy unit has been installed in addition to the existing three, which makes the four-unit system going into full-scale operation in the near future.

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Currently, about 130 patients a day in average (including 1,653 newly-admitted patients for

2016 based on the annual survey) take radiotherapy (linac) at the SCC. The figure is one of the biggest in Japan among all the medical institutions equipped with radiotherapy facilities. Radiotherapy is a lower-impact cancer treatment than surgery or chemotherapy, either of which gives a patient rather a heavy physical burden. Therefore, radiotherapy can be a desirable cancer treatment for the aged patients.

At the SCC, the Division of Radiation Oncology, where linac radiation had been handled, and the Division of Proton Therapy had been two separate clinical divisions for years, but they merged into a newly-developed clinical division, (tentatively named) "the Radiation and Proton Therapy Center" in November, 2015. At this new division, it is now easier for a patient to make the best-suited choice for his/her symptom between conventional radiotherapy and proton therapy taking advantage of each type than before. Also, now it is possible for a patient to take the "interacted irradiation of radioactive ray and particle beam," that is, combining both of conventional radiotherapy and proton therapy. This is included in the new types of radiotherapy developed at the new division, and the efforts are constantly made there aiming to become a primary facility for cancer treatment for the aged patients.

The SCC certified as "case observation center for gastric procedure" for the "da Vinci" Robotic Surgical System (June, 2014)

Surgical operations conducted by the "da Vinci" Robotic Surgical System have been conducted since December, 2011, and 490 cases of stomach cancer, cancer of colon and rectum, prostate cancer and mediastinal tumor have been subjected up until June, 2014. In that month, the SCC was certified as "case observation center for gastric procedure," in addition to the previous certification in the field of colon and rectum cancer, by Intuitive Surgical, Inc., U.S.A. The certification was given for the high evaluation of the

well-established operative procedure at the SCC. It was the very second certification given to a Japanese

medical institution.

The prevalence rate of stomach cancer is the biggest one in Japan among all types of cancer for both male and female. Especially early-stage gastric cancer accounts 50% of the whole cancer cases. Surgical operation performed by the da Vinci Robotic Surgical System proves low invasive potential, which is promising for treatment of early-stage gastric cancer because of good prognosis after surgery.



At the SCC, surgical operation by "da Vinci" is conducted for clinical stages IA and IB, which are out of adaptation for ESD(endoscopic submucosal dissection).

• Records of Operations Performed by the da Vince Robotic Surgical System at the SCC

Clinical Division	Type of Cancer	Method of Operation	FY2011	FY2012	FY2013	FY2014	Total	
Colon and Rectal	Rectal	Rectal Resection	10	63	149	43	265	
Surgery	Cancer		10	03	149	43	203	
Gastric Surgery	Gastric	Gastric Resection	4	32	50	15	101	
Gastric Surgery	Cancer		4	32	50	13	101	
Urology	Prostate	Removal of Prostate		41	65	14	120	
Urology	Cancer		-	41	05	14	120	
		Removal of						
Thoragia Surgary	Mediastinal	Mediastinal Tumor			1	1	2	
Thoracic Surgery	Tumor, etc	Complete Removal	_	-	ı	ı	2	
		of Thymus Gland						
	Grand Tota	ıl ————————————————————————————————————	14	136	265	73	488	

XStatistics for the FY2014 stand for the records until June, 2014.

"Content-based Image-retrieval System" developed in collaboration, supporting image analyses by doctors in the fields of liver cancer in addition to lung cancer (April, 2014)

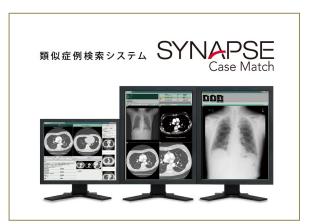
The SCC developed the "Content-based Image-retrieval System" in collaboration with Fujiffm Co. It supports doctors' image analyses with artificial intelligence. The system was launched onto marketing as "SYNAPSE® Case Match" from Fujifilm Medical Co. Furthermore, in April, 2014, image scanning function for liver cancer was added to the system, which consists of comprehensive data from about 1,000 cases of liver cancer as well as about 300 cases of hepatic tumor mass with confirmed diagnoses.

It quantifies the similarity of various and complicated monochrome images on affected lesions of lung cancer or liver tumor mass, based on how doctors take heed. This is a system to build reliability of diagnosis, as resemble cases can lead to candidate diseases specifically even when doctors have difficulty deciding on diagnoses.

(Salient Features of "Content-based Image-retrieval System")

- ♦ Resembled cases in lung cancer¹ and liver cancer² can be retrieved in a blink.
- ♦ Comprehensive data provides strong supports for image analyses by doctors.
- ♦ Image-analysis reports can be prepared in easy and efficient ways.
- It provides educational and self-learning opportunities.
- 1. lung cancer: isolated shadow only (including benignancy)
- liver cancer: tumor mass in liver only (including benignancy)

Reference
SYNAPSE® Case Match
http://www.fujifilm.com/products/medical/synapse/



The SCC launches the Project HOPE (High-tech Omics-based Patient Evaluation), the cutting-edge genetic research project (January, 2014)

In January, 2014, the SCC launched the Project HOPE (High-tech Omics-based Patient Evaluation), a clinical study aiming at the ideal cancer medicine, which consists of "personalized medicine" and "mibyo medicine."

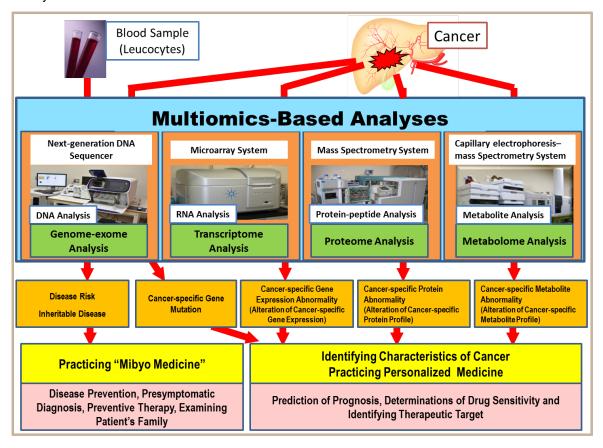
For genetic research of this project, cancer tissues and blood samples are supplied from patients of about 1,000 cases extracted from more than 3,000 cases a year of surgical operations at the SCC. In the field of genomics, genetic changes (qualitative transformation of genes) are evaluated, while changes in genetic expressions (quantitative alteration of genes) are evaluated in the field of RNA analyses (transcriptomics).

The genetic information obtained from this research is being employed for future cancer medicine, which includes the selection of cancer therapy products and the presymptomatic prognosis of hereditary diseases.

The features of this projects are as follows: No restrictions for cancer types. Integrated method of analysis called multiomics is employed for genetic analyses. It is a research within one single site called the SCC equipped with both fields of a research institute and a hospital.

Analytical results are stored for many years to come, so that they will be given back for the benefits of patients in the future, when new method of treatment and analysis technology are developed. That will be when the stored data is taken for reanalysis and is used for personalized medicine and mibyo medicine.

The study is subjected for each individual patient, which is the cutting-edge research concept rare to be found anywhere in the world.



IVR-ADCT (320-rowed CT angiography equipment) installed (August, 2013)

The SCC has installed the world's first IVR¹-ADCT (developed by Toshiba Medical Systems Co.), which integrates 320-rowed ADCT (Area Detector CT) and angiography equipment. The 320-rowed ADCT enables four-dimensional angiographic examination and treatment, as time axis information is added to three-dimensional spatial information gained by conventional high-speed CT systems.



1. IVR: a method of treatment leaving the least injury by injecting a fine tube or needle called catheter, while constantly observing X-rayed, angiographic, ultrasonic or computed-tomographic images

This is an examination equipment suitable for getting vascular flow over time and making a decision on treatment method based on the result of it. For example, when coronary artery embolus or

chemotherapy by coronary arterial injection is conducted, either of which is an effective treatment method for liver cancer, it is a critical process to make it sure that the injected drug reaches the tumor. The IVR-ADCT equipment makes it possible to monitor the flow of drug injected from coronary artery all along.

True Beam[™] (developed by Varian Medical Systems) installed (July, 2013)



In September, 2002 when the SCC opened, two linac radiotherapy equipment were installed already, and another one was added in 2005. Then in July, 2013, one of the originally installed systems was replaced by the newest and most advanced model named True BeamTM (by Varian Medical Systems), which was the very second installment in Japan.

True Beam[™] is known for high accuracy, which makes it possible to give more precise irradiation than ever even in difficult cases like when cancer is identified too close to

sensitive organs including brain, spine, lung and digestive system.



therapy, the features of True Beam[™] are very much helpful.

Moreover, as the power of this new model is four times higher than conventional ones, delivery time for irradiation can be shortened.

Advanced functions including respiratory synchronization and positioning/tracking by images make high precision in radiotherapy possible. Especially in case of radiotherapy demanding high accuracy, including IMRT(Intensity Modulated Radiation Therapy) or stereotactic radiation

The radiation room offers patients a very comforting atmosphere, with wood-effect interior and the skylight windows. When a patient lies on the treatment table in this room, he/she will feel as if it were in the forest under the blue sky.

The SCC approved as a special functioning hospital by the Ministry of Health, Labor and Welfare (April 1, 2013)

"Special Functioning Hospital" is a medical institution officially approved by the Ministry of Health, Labor and Welfare as one being dedicated to developments of medicine, medical technology and human resources and being equipped with high-grade medical safety, functions and abilities. Among the entire 8,000-something hospitals in Japan, other than 80 hospitals of universities and medical colleges, and 3 hospitals in the National Center for Global Health and Medicine, only 3 of the Osaka

Medical Center for Cancer and Cardiovascular Diseases, the Cancer Institute Hospital and the SCC are the ones being approved. In Shizuoka Pref., the Hamamatsu University Hospital is the only other medical institution that has been approved as a Special Functioning Hospital.

The approval means nothing less than that the SCC ensures the same level of high-grade functions as university hospitals and the National Center for Global Health and Medicine. It helps boosting the quality of local medical care through rearing and training young medical staff coming out from all over Japan. At the same time, it helps strengthening ties with local hospitals and clinics. It is also expected that the approval will possibly boost the Farma Valley Project, as the development of medical technology is being promoted and recognized highly.



Survival rate of pancreatic cancer patients improved by S-1(anticancer drug) in the clinical test of supplementary chemotherapy after surgery (January, 2013)

Surgical operation to remove cancer has been considered as only one method of treatment for permanent cure of pancreatic cancer. However, when pancreatic cancer is identified, the percentage of cases with complete removal is from 20 to 30, which is rather low. Moreover, it is considered as a kind of cancer with a less favorable prognosis as the 5-year survival rate after the surgery remains as only 20%. For the past 20 to 30 years, there hasn't been any breakthrough in treatment method for pancreatic cancer and the rates have always remained low.

In August, 2012, it was discovered that when S-1, oral anticancer drug, was administered as supplementary chemotherapy after surgery to pancreatic cancer patients with removable cancer, the death rate of went down by 44% compared with the cases with conventional treatment by gemcitabine. At the SCC, this has been immediately brought to the clinical use since then.

At the Gastrointestinal Cancers Symposium of the ASCO(American Society of Clinical Oncology) Annual Meeting (ASCO-GI2013 in San Francisco, USA), the chief researcher Katsuhiko Uesaka, M.D.,Ph.D., the deputy director of the SCC Hospital and the head of Hepato-Biliary-Pancreatic Surgery, made a presentation on the result of this study. It received a huge response from the ASCO members, which led to the Pancreatic Cancer Treatment Guideline Revision Committee (March 23, 2013, in Kagoshima, Japan) where conventional treatment methods were discussed.

In the chapter of supplementary chemotherapy after surgery of "Pancreatic Cancer Treatment Guideline 2013," the sole therapy with S-1 is recommended as a regimen of the supplementary chemotherapy after surgery. S-1 is now taken as a new standard treatment method for supplementary chemotherapy after surgery.

The SCC certified as "case observation center for colon and rectum procedure" for surgical operations performed by the "da Vinci" Robotic Surgical System (November, 2012)

At the SCC, surgical operations by the "da Vinci" Robotic Surgical System have been conducted since December, 2011. In addition to the cases of removing prostate cancer, which are covered by Japanese public medical insurances, operations for urinary organs, colon and rectum, stomach and lung have been performed by 2 of these robotic surgical systems.

Operations performed by the da Vinci Robotic Surgical System are getting rapidly frequent, because even cases



considered as impossible by ESD(endoscopic submucosal dissection) can be handled by the minute robot movements. It helps much about some very difficult cases and turns the impossible into the possible. Also, as it is expected that patients can be back to normal life after the operations as they offer comparatively low invasive potential.

Before a doctor performs a surgical operation by the da Vinci Robotic Surgical System, he/she needs to go through several training sessions recommended by relevant associations, as well as observing actual surgeries performed at a certified observation center. In Japan, there weren't any certified observation centers in the field of colon and rectum cancer before, so that doctors had to travel all the way to Korea for observations.

In November, 2012, Intuitive Surgical, Inc., U.S.A. certified the SCC as the "case observation center for colon and rectum procedure by the da Vinci Robotic Surgical System," which was the first certification given in the field in Japan. Now a Japanese doctor doesn't have to travel to Korea for observing a surgical operation of colon and rectum cancer performed by the da Vinci Robotic Surgical System.

The SCC awarded the Japan Cancer Society special award the "Asahi Award" (September, 2012)



In September, 2012, the SCC was awarded the "Asahi Award" for what had been accomplished by a series of local on-site sessions called "Inquiries about Cancer" over 10 years. At the SCC, the Hospital, the Research Institute and the Disease Management Center have been working in collaboration for supporting patients and their families since the opening day in 2002.

What the SCC has been doing with the local on-site

sessions of the "Inquiries about Cancer," which won the award, is now a model inquiry and support center among all set up at the Regional Medical Care Support Hospitals for Cancer Treatment in the whole nation. Inquiries from cancer patients and their families as well as citizens of Shizuoka and medical staff are given and answered both to-face and by telephone, which makes one of the efforts for pursuing ideal inquiry center about cancer.

Medical & dental cotherapy initiated by the SCC becomes a part of healthcare services provided by health insurance(April, 2012)

At the SCC, disease complications including pneumonia as well as oral complications before and after cancer treatment have been prevented and alleviated at the Division of Oral Surgery since the day of opening in 2002. Oral care has always been a part of cancer treatments at the SCC.

In 2006, collaboration between the SCC and the Shizuoka Prefecture Dental Association started promoting "the Shizuoka Model," which is a system allowing cancer patients to take oral care at the local dental clinics before and during cancer treatments. This medical and dental cotherapy system initiated by the SCC went spreading around the country, which led to adding a new item "perioperative management of oral function" in the healthcare services provided by health insurance at the revision of medical service fee in April, 2012.



Graduate school affiliation system established as a new institution (April, 2012)

1) Graduate School Affiliation System with Keio University School of Medicine and Graduate School of Medicine Established (April, 2012)

Shizuoka Prefecture and Keio University came to close a business partnership agreement in December, 2010, to work together on collaborative research, industrial development and human resource cultivation, with the SCC in the center of the whole partnership. Then in April, 2012, it moved further forward to establish a new institution about graduate school affiliation system between the SCC and Keio University School of Medicine and the Graduate School of Medicine for promoting collaboration and medical education.

In April, 2013, 6 doctors entered Keio University Graduate School of Medicine by dint of this newly established system. This way, they are now able to complete their doctorates while being engaged in clinical medicine at the SCC.

The system supports those who work on doctorates in the following ways:

1. All the expenses including tuition and travel, etc. are covered as public expenditure up to the 4th year.

2. When there is a need to leave the hospital for lectures, it will be handled as "business trip." Therefore, doctors don't have to take "paid leaves" for going to school.

With these supports, doctors can now study for doctorates while working at the SCC hospital. In 2014, 4 doctors got enrolled Keio in dint of this system.

2) Graduate School Affiliation System with Graduate School of Medicine of Osaka University Established(April, 2014)

The SCC and Graduate School of Medicine, Faculty of Medicine, Osaka University closed an agreement about cooperation and collaboration in research and education (on the graduate school affiliation system), and established the graduate school affiliate for "the Science of Cancer Nursing Based on Medical Care by Multidisciplinary Team" (School of Health Sciences, Graduate School of Medicine, Faculty of Medicine, Osaka University) inside the SCC.

At the graduate school affiliate in the SCC, the medical staff of the SCC appointed as invited professors and associate professors of Osaka University give guidance on research. Upon finishing the course, doctorate of nursing sciences or health sciences is awarded.

