Continuous Improvement in a Successful Academic Medical Cluster --Chang Gung Experience

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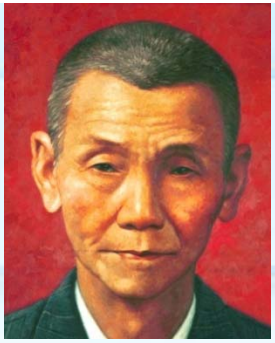
Chairman,
Chang Gung Steering Committee
Chang Gung Medical Group, Taiwan

Mr. YC Wang



Mr. Chang Gung Wang

"Every patient can get good medical care in time with reasonable cost in Taiwan"

Chang Gung Group

長庚紀念醫院
CHANG GUNG MEMORIAL HOSPITAL

2. Linkou CG
1978

1.Taipei CG
1976

4.Keelung CG
1985

5.Children's Medical Center
1993

7.Taoyuan CG
2003

9.Yuenlin CG
2009

8.Culture Village
2005

6.Chiayi CG
2001

3.Kaosiung CG
1986

7.Taoyuan Nursing Home
2001

Number of Beds, by Branch Hospitals

Branch	Keelung	Taipei	Linkou	Taoyuan	Nursing home	Yunlin	Chiayi	Kaohsiung	Fongshan	**Total**
Acute Beds	800	123	2,918	99	-	100	1,000	1,388	58	6,486
Chronic Beds	-	-	-	280	-	-	-	363	-	643
Special Beds	111	47	601	72	310	13	146	317	-	1,617
Subtotal	**911**	**170**	**3,519**	**451**	**310**	**113**	**1,146**	**2,068**	**58**	**8,746**
Hemodialysis Beds	114	56	81	185	-	12	80	192	45	765
Observation Beds	43	37	231	8	-	11	56	205	6	597
Total	**1,068**	**263**	**3,831**	**644**	**310**	**136**	**1,282**	**2,465**	**109**	**10,108**

Data updated Apr. 2013

Number of Medical Personnel, 2012

position	Visiting staff	Resident	Nursing staff	Para Medical	Adm. staff	Total
TPE,Linkou	886	494	3,233	1,545	1,632	7,790
Taoyuan	110	29	330	290	667	1,426
Keelung	204	94	627	366	387	1,678
Subtotal	**1,200**	**617**	**4,190**	**2,201**	**2,686**	**10,894**
Yunlin	22	0	87	47	70	226
Chiayi	203	80	847	388	484	2,002
Kaohsiung	487	236	2,310	959	887	4,879
Fongshan	16	0	48	66	33	163
Total	**1,928**	**933**	**7,482**	**3,661**	**4,160**	**18,164**

SingHealth

SingHealth Hospitals

Singapore General Hospital

Singapore General Hospital
SingHealth

KK Women's and Children's Hospital

KK Women's and Children's Hospital
SingHealth

Primary Healthcare

SingHealth Polyclinics

Polyclinics
SingHealth

Community Hospital

Bright Vision Hospital

Together We Care 观明医院
Bright Vision Hospital

National Specialty Centres

National Cancer Centre Singapore

National Cancer Centre Singapore
SingHealth

National Dental Centre Singapore

National Dental Centre
SingHealth

National Heart Centre Singapore

National Heart Centre Singapore

National Neuroscience Institute

National Neuroscience Institute
SingHealth

Singapore National Eye Centre

Singapore National Eye Centre
SingHealth

SingHealth

Our institutions are **centres of excellence**, and we seek to **integrate clinical services, teaching and research** to bring tomorrow's medicine closer to our patients. We will continue to hold steadfast to our values and calling to serve with care and compassion, for the betterment of our patients.

We are dedicated to meeting the needs of:
Our Patients: excellent and cost effective healthcare.
Our Staff: continuing development and welfare.
Our Nation: partnership in promoting health.

SingHealth Quality Priorities or **SPREE** - **S**afety, **P**rofessionalism, **R**espect, **E**xperience and **E**fficiency - serve as signposts to guide all staff in putting our patients at the heart of all we do, regardless of the role we play, directly or indirectly, in delivering patient care across all SingHealth institutions.

Chang Gung Medical Group

Responsibility Center System

Responsibility center (divisionalization)
- Cost accounting system
- Cost-allocation base

Management by Objectives (management systems)
- operation analysis
- performance management
- sub-specialization
- healthcare management
- projects
- abnormality management

Routine medical service operation

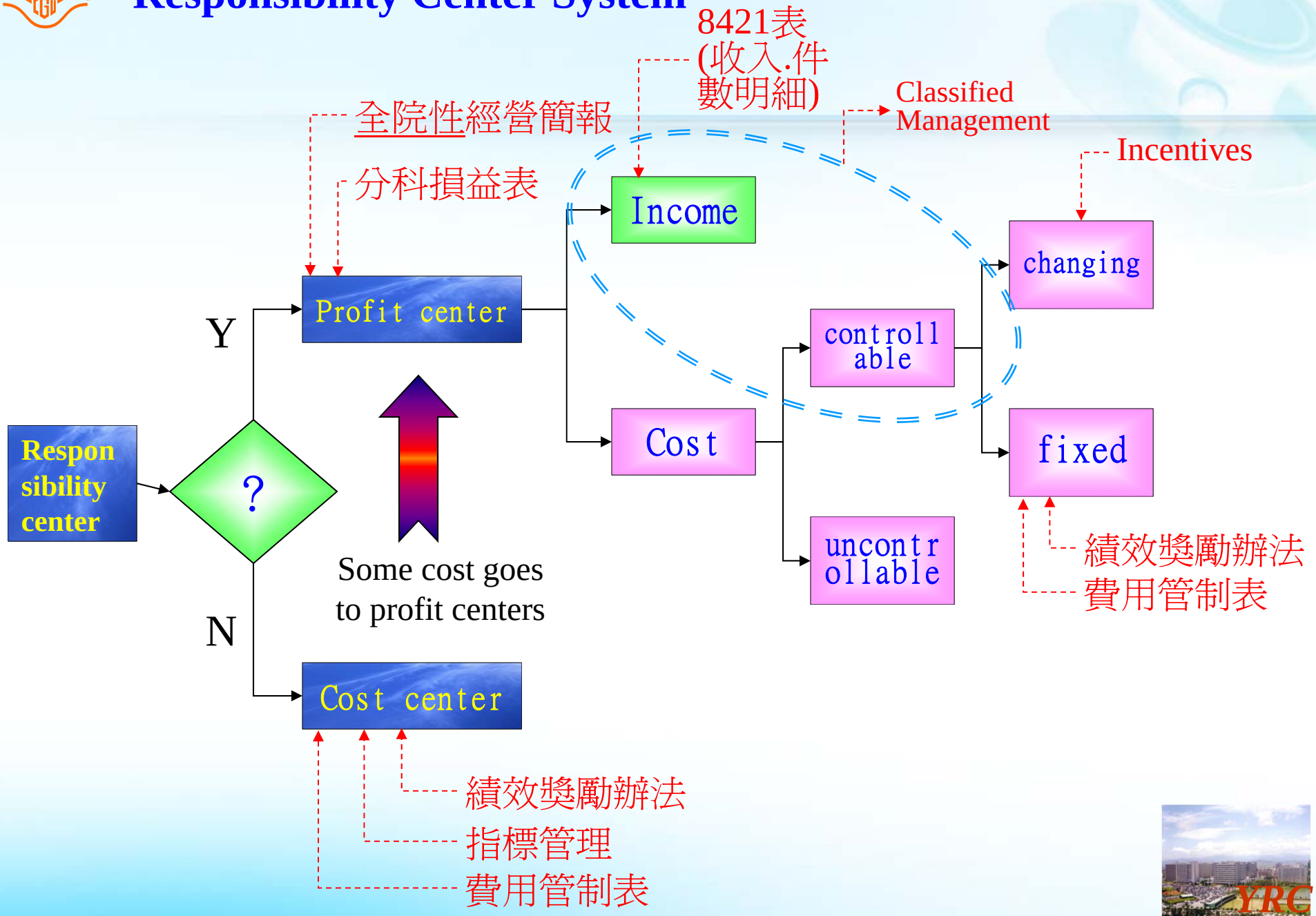
Evaluation via the standards or expectation

Normal

Review for abnormality

Performance management (motivation)
- Physician Fee system
- Reward system

Responsibility Center System



Chang Gung Group Management Report monthly

- 出表時機：每月2日
- 出表對象：院長級以上主管

比較 / 項目		本月		上月		去年同期		比較增減			
								比上月		比去年同期	
		金額	%	金額	%	金額	%	金額	%	金額	%
收入淨額		********	****	********	****	********	****	27,204	0.9	-40,772	-1.3
收入金額		********	****	********	****	********	****	29,970	0.9	129,846	4.0
減：退回及折讓		********	****	********	****	********	****	2,766	0.8	170,618	101.0
醫務成本		********	****	********	****	********	****	14,963	0.6	68,983	2.6
變動成本	主治醫師PF	500,164	****	502,307	****	489,713	****	-2,143	-0.4	10,451	2.1
	藥品成本	635,330	****	629,837	****	668,957	****	5,493	0.9	-33,627	-5.0
	醫療材料費	282,739	****	278,874	****	260,179	****	3,865	1.4	22,560	8.7
	社會救濟與教育訓練	150,237	****	148,900	****	152,728	****	1,337	0.9	-2,491	-1.6
	水電費	36,794	****	30,980	****	35,151	****	5,814	18.8	1,643	4.7
	燃料氣體費	10,376	****	9,729	****	10,392	****	647	6.7	-16	-0.2
	小計	********	****	********	****	********	****	15,013	0.9	-1,480	-0.1
固定成本	直接人工	754,324	****	745,212	****	727,814	****	9,112	1.2	26,510	3.6
	間接人工	96,065	****	96,212	****	76,563	****	-147	-0.2	19,502	25.5
	折舊	133,309	****	135,011	****	120,309	****	-1,702	-1.3	13,000	10.8
	修護費	43,009	****	42,056	****	33,247	****	953	2.3	9,762	29.4
	稅捐	6,267	****	7,477	****	7,020	****	-1,210	-16.2	-753	-10.7
	什項購置	17,670	****	18,205	****	15,211	****	-535	-2.9	2,459	16.2
	消耗品	1,195	****	1,082	****	1,793	****	113	10.4	-598	-33.4
	事務費用	20,822	****	20,682	****	17,721	****	140	0.7	3,101	17.5
	其他費用	22,525	****	29,299	****	25,045	****	-6,774	-23.1	-2,520	-10.1
	小計	********	****	********	****	********	****	-50	0.0	70,463	6.9
醫務毛利		********	****	********	****	********	****	12,241	4.2	-109,755	-26.6
管理費用		96,947	****	96,327	****	88,317	****	620	0.6	8,630	9.8
醫務損益		********	****	********	****	********	****	11,621	**6.0**	-118,385	-36.5

Branch Chang Gung Management Report monthly

比較 / 項目		本月		上月		去年同期		比較增減			
								比上月		比去年同期	
		金額	%	金額	%	金額	%	金額	%	金額	%
收入淨額		********	****	********	****	********	****	43,525	3.0	-136,639	-8.3
收入金額		********	****	********	****	********	****	48,504	3.0	-68,418	-3.9
減：退回及折讓		********	****	********	****	********	****	4,979	3.3	68,221	76.8
醫務成本		********	****	********	****	********	****	21,030	1.6	-59,581	-4.2
變動成本	主治醫師PF	261,906	****	262,481	****	272,788	****	-575	-0.2	-10,882	-4.0
	藥品成本	293,193	****	281,487	****	340,567	****	11,706	4.2	-47,374	-13.9
	醫療材料費	154,581	****	150,953	****	144,610	****	3,628	2.4	9,971	6.9
	社會救濟與教育訓練	75,400	****	73,224	****	82,232	****	2,176	3.0	-6,832	-8.3
	水電費	15,319	****	13,671	****	15,635	****	1,648	12.1	-316	-2.0
	燃料氣體費	4,602	****	5,074	****	5,924	****	-472	-9.3	-1,322	-22.3
	小計	********	****	********	****	********	****	18,111	2.3	-56,755	-6.6
固定成本	直接人工	382,617	****	380,348	****	396,744	****	2,269	0.6	-14,127	-3.6
	間接人工	46,101	****	45,778	****	41,836	****	323	0.7	4,265	10.2
	折舊	60,993	****	62,007	****	60,511	****	-1,014	-1.6	482	0.8
	修護費	19,976	****	19,255	****	13,802	****	721	3.7	6,174	44.7
	稅捐	2,932	****	3,572	****	3,832	****	-640	-17.9	-900	-23.5
	什項購置	8,884	****	8,603	****	7,003	****	281	3.3	1,881	26.9
	消耗品	799	****	582	****	1,164	****	217	37.3	-365	-31.4
	事務費用	11,857	****	10,616	****	11,316	****	1,241	11.7	541	4.8
	其他費用	12,099	****	12,578	****	12,876	****	-479	-3.8	-777	-6.0
	小計	********	****	********	****	********	****	2,919	0.5	-2,826	-0.5
醫務毛利		********	****	********	****	********	****	22,495	16.8	-77,058	-33.0
管理費用		43,431	****	43,101	****	47,175	****	330	0.8	-3,744	-7.9
醫務損益		********	****	********	****	********	****	22,165	**24.3**	-73,314	-39.3

Management Report analysis

❖針對成本有利差異及不利差異對損益之影響分析

說明:

一、損益

1. 本月份醫務收入3,316,204仟元，利益411,384仟元，利益率12.4%，收入與上月比較增加483,967仟元，利益增加232,400仟元。
2. 本月份全院醫務利益411,384仟元，其中台北、林口院區利益242,178仟元，利益率14.7%，桃園分院利益15,929仟元，利益率9.7%，護理之家利益1,136仟元，利益率7.9%，基隆院區利益14,906仟元，利益率5.7%，嘉義院區利益13,371仟元，利益率4.6%，高雄院區利益118,738仟元，利益率13.2%，鳳山院區利益5,968仟元，利益率16.3%，養生文化村虧損842仟元。
3. 本月門診天數25.0天，較上月增加4.0天，住院天數31.0天，較上月增加3.0天，
   (1)門診本月增加102,995人次，急診本月增加1,645人次。
   (2)住院床日本月增加32,860床日。
   (3)養生文化村住宿人數本月增加8人。
4. 依上月本院邊際貢獻率48.3%計算，本月收入增加483,967仟元，利益將增加233,756仟元，實際利益則增加232,400仟元，不利差異1,356仟元，其中不利差異37,279仟元，有利差異35,923仟元，主要原因：

   不利差異：

   (1)藥品成本增加11,730仟元。
   (2)材料費增加13,689仟元。
   (3)稅捐增加495仟元。
   (4)什項購置增加4,024仟元，主要係：高雄院區：開刀房骨科組領用開刀器械2,001仟元；台北院區：不孕症中心領用二氧化碳細菌培養器158仟元；桃園分院：八接F區護理站領用電動病床等計450仟元及五接F區護理站領用沙發椅等計101仟元；基隆院區：6A及7A護理站領用兒童病床及護理工作車236仟元，內科部領用塑膠櫥櫃194仟元及手術室領用個人電腦1PC及撞擊式印表機2PC共118仟元；嘉義院區：開刀房骨科組領用微創脊椎手術導光系統391仟元。
   (5)消耗品增加100仟元。
   (6)事務費用增加2,760仟元，主要係：台北院區：開刀房績效分配費401仟元，腎臟科績效分配費113仟元；基隆院區：各外包人員春節出勤津貼115仟元；高雄院區：國內差旅費增加243仟元。
   (7)其他費用增加4,481仟元，主要係：台北院區：復健病房2月份公共清潔費709仟元，布類品調撥運費1~3月619仟元，TQIP急性指標年會費283仟元及實驗外科遷移搬運費122仟元；基隆院區：婦產科醫療和解金300仟元，水污染防治費232仟元；嘉義院區：核銷下水道使用費357仟元；高雄院區：清潔費增加885仟元及外包人員春節出勤津貼300仟元。

   有利差異：

   (1)主治醫師PF減少11,308仟元。
   (2)水電燃料費減少1,231仟元。
   (3)直接人工及間接人工減少22,504仟元。
   (4)折舊費用減少2,229仟元。
   (5)修護費用減少30仟元。
   (6)管理費用減少238仟元。

Profit Center (department) Management Report monthly

- 出表時機：每月5日、出表對象：科系主任、經管組經營助理
- 重點：1.收益中心之損益狀況
  2.部門別收入分析（門診、住診、加護病房、開刀）
  3.隨服務量變化之變動成本%有無異常

部門代號： 33A0

95年03月麻　醉　科分科經營損益比較表

項目 \ 月份		門診		住院		加護病房		開刀房		本月(A)		上月(B)		去年同期(C)		差異(D) =A-B	
		金額	%	金額	%	金額	%	金額	%	金額	%	金額	%	金額	%	金額	%
醫務收入淨額		5,298	100.00	34,634	100.00	12,798	100.00	0	0.00	52,731	100.00	44,691	100.00	58,298	100.00	8,040	17.99
醫務成本	用人成本 主治醫師	2,797	52.79	6,997	20.20	2,430	18.98	0	0.00	12,223	23.18	10,567	23.64	12,553	21.53	1,656	15.67
	住院醫師	1,661	31.36		0.00		0.00	0	0.00	1,661	3.15	1,533	3.43	2,506	4.30	128	8.37
	護理人員	112	2.11		0.00		0.00	3,113,972	0.00	3,226	6.12	3,240	7.25	3,221	5.53	-14	-0.44
	技術人員	11,245	212.24		0.00		0.00	0	0.00	11,245	21.33	11,189	25.04	11,275	19.34	56	0.50
	行政人員	538	10.15		0.00		0.00	53,816	0.00	592	1.12	594	1.33	574	0.98	-2	-0.34
	其他人員	236	4.46		0.00		0.00	778,055	0.00	1,014	1.92	1,033	2.31	1,001	1.72	-19	-1.83
	小　計	16,590	313.11	6,997	20.20	2,430	18.98	3,945,843	0.00	29,962	56.82	28,156	63.00	31,130	53.40	1,805	6.41
	變動成本 計價藥品	518	9.78	3,926	11.34	1,375	10.74	0	0.00	5,819	11.04	4,081	9.13	6,073	10.42	1,738	42.58
	不計價藥品	41	0.78		0.00		0.00	0	0.00	41	0.08	24	0.05	22	0.04	17	69.17
	計價材料	62	1.17	1,048	3.03	780	6.10	0	0.00	1,890	3.58	1,556	3.48	1,949	3.34	335	21.51
	不計價材料	769	14.51		0.00		0.00	0	0.00	769	1.46	599	1.34	1,092	1.87	169	28.22
	蒸汽費	4	0.07		0.00		0.00	0	0.00	4	0.01	4	0.01	4	0.01		6.09
	電力費	77	1.46		0.00		0.00	0	0.00	77	0.15	62	0.14	76	0.13	16	25.40
	水費	4	0.08	26	0.07	9	0.07	0	0.00	39	0.07	30	0.07	37	0.06	9	31.25
	氣體	55	1.04	306	0.88	128	1.00	0	0.00	490	0.93	495	1.11	473	0.81	-5	-1.04
	社會補助	53	1.00	346	1.00	128	1.00	0	0.00	527	1.00	223	0.50	291	0.50	304	135.98
	小　計	1,583	29.88	5,653	16.32	2,421	18.91	0	0.00	9,656	18.31	7,074	15.83	10,016	17.18	2,582	36.50
	固定成本 折舊	1,683	31.77		0.00		0.00	0	0.00	1,683	3.19	1,675	3.75	2,017	3.46	9	0.51
	修護費	637	12.02		0.00		0.00	0	0.00	637	1.21	952	2.13	100	0.17	-315	-33.13
	工務修膳費	78	1.47	36	0.10	13	0.10	0	0.00	127	0.24	133	0.30	88	0.15	-6	-4.74
	儀器修膳費		0.00		0.00		0.00	0	0.00		0.00		0.00	123	0.21		0.00
	空調費	28	0.53		0.00		0.00	0	0.00	28	0.05	25	0.06	28	0.05	3	11.70
	什項購置	42	0.79		0.00		0.00	0	0.00	42	0.08	39	0.09	88	0.15	3	7.20
	消耗品	1	0.01		0.00		0.00	0	0.00	1	0.00		0.00	1	0.00		122.49
	事務費用	236	4.45		0.00		0.00	2,704	0.00	238	0.45	258	0.58	324	0.56	-20	-7.80
	清潔費	104	1.97		0.00		0.00	0	0.00	104	0.20	98	0.22	90	0.15	6	6.56
	洗縫費	89	1.68		0.00		0.00	0	0.00	89	0.17	65	0.15	78	0.13	24	37.11
	醫療供應費		0.01		0.00		0.00	0	0.00		0.00	1	0.00	1	0.00		-9.51
	醫療事務費	62	1.17	404	1.17	148	1.16	0	0.00	614	1.16	671	1.50	740	1.27	-57	-8.46
	醫學教育訓練	42	0.79	271	0.78	99	0.78	0	0.00	411	0.78	169	0.38	228	0.39	243	143.75
	護理監理費	4	0.07		0.00		0.00	113,334	0.00	117	0.22	124	0.28	140	0.24	-7	-5.98
	醫療監理費	254	4.79	1,647	4.76	604	4.72	0	0.00	2,505	4.75	1,948	4.36	2,380	4.08	557	28.61
	藥劑調配費	17	0.32	84	0.24	34	0.27	0	0.00	135	0.26	127	0.28	183	0.31	8	6.02
	其他	65	1.23		0.00		0.00	8,494	0.00	74	0.14	30	0.07	40	0.07	44	146.72
	教育訓練提撥差額	-14	-0.26	-90	-0.26	-33	-0.26	0	0.00	-137	-0.26	170	0.38	688	1.18	-307	-180.77
	小　計	3,327	62.80	2,350	6.79	865	6.76	124,532	0.00	6,668	12.64	6,484	14.51	7,336	12.58	183	2.83
	合　計	21,500	405.79	15,000	43.31	5,715	44.66	4,070,375	0.00	46,285	87.78	41,714	93.34	48,482	83.16	4,571	10.96
醫務毛利		-16,202	-305.79	19,635	56.69	7,083	55.34	-4,070,375	0.00	6,445	12.22	2,977	6.66	9,816	16.84	3,468	116.51
管理費用		140	2.65	913	2.63	335	2.62	0	0.00	1,388	2.63	1,391	3.11	1,722	2.95	-3	-0.23
本期損益		-16,342	-308.45	18,722	54.06	6,748	52.73	-4,070,375	0.00	5,057	9.59	1,586	3.55	8,094	13.88	3,472	218.93
研究費			0.00		0.00		0.00	0	0.00		0.00		0.00		0.00		0.00
調整後損益		-16,342	-308.45	18,722	54.06	6,748	52.73	-4,070,375	0.00	5,057	9.59	1,586	3.55	8,094	13.88	3,472	218.93

Continuous improvement – management of clinical specialties in Chang Gung Group

- Management report to Steering committee members: Chang Gung Group (1/M)
- Special Issue Review: Morning and lunch meetings (1/W)
- Branch Hospital Department Review: 1-2/W
- Annual Review (1/Y)

Continuous improvement – management of clinical specialties in Chang Gung Group

- There are 46 clinical departments/disease centers/specialty centers in Chang Gung Group
- The department/center heads of the four big centers (Linkou, Kaoshiung, Keelong, Chiayi) report together to the Steering Committee about service, research and teaching every two years. One of the head (usually the most senior or most outstanding one) serve as the coordinator of the specialty/center for a period of certain years.
- A mechanism of competition and coorporation

Chang Gung Memorial Hospital Group

- **One out of four** Taiwanese has received medical service from Chang Gung at least once in his/her life
- **One out of five** medical graduates from Taiwanese medical schools have had post-graduate training in Chang Gung
- **7.3% (10.86% inpatient, 5.62% OPD)** of total Taiwan National Health Insurance fee goes to Chang Gung in 2010
- Taiwanese's **first choice** hospital in the annual survey by a major journal in Taiwan every year since 2004

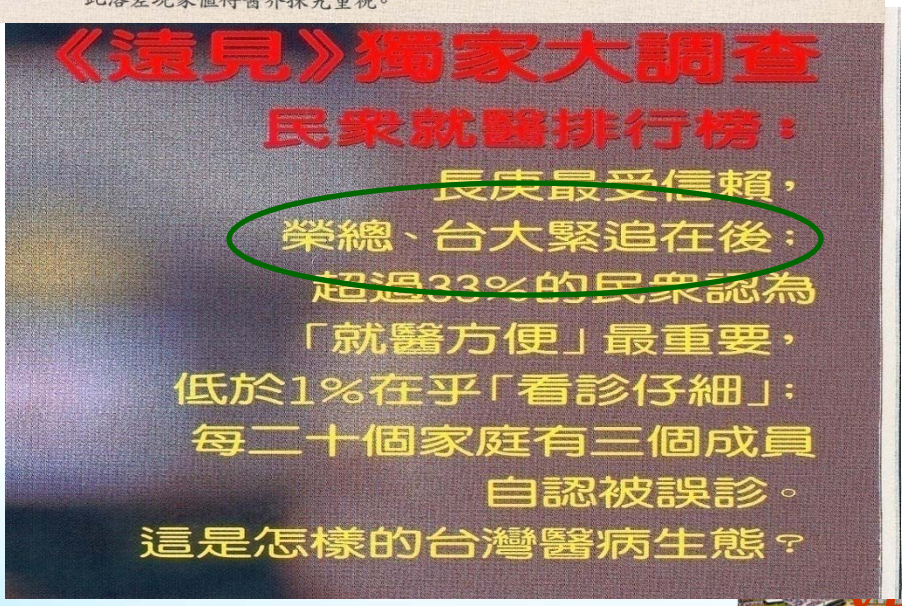
榮獲遠見雜誌
評比可近性最
高之醫療院所

Cover Story《遠見》大調查

後SARS時代，醫院服務業時代來臨

民眾就醫排行榜，長庚醫院No.1

後SARS時代，民眾對國內各大醫院的信心開始動搖。
但是，爲什麼高雄長庚醫院爆發疑似院內感染事件之後，
長庚體系的醫院仍是民眾就醫時的第一選擇？
當醫界大老紛紛提出台灣的醫療品質，
尤其是「醫病關係」有待改進之際，
《遠見》獨家調查卻發現，
民眾重視「看病方便」遠甚於「看診仔細」，
此落差現象值得醫界探究重視。



Continuous Improvement
CGMH: *e*-HOSPITAL

- Information integration
- E-image (2004),PACS
- E-chart (2012)
- Real-time information to adapt in the dynamic environment
- Share and exchange information
- Provide supporting evidence for research and decision-making

Strategy evolution in Chang Gung

Founding mission

Services for general population

- **Provide sufficient, good quality and low-cost services to people**
  - Expand bed scales and service volume
  - Train medical staff
  - Exercise economies of scale
  - Achieve high efficiency
  - Control cost

Current mission

World-class healthcare system

- **Cutting edge clinical research and innovative service**
- **Be state-of-the-art world-class medical center**
  - Patient-centered, multidisciplinary centers of excellence
  - Actively participate in transnational teaching cooperation and benchmarking learning

Continuous Improvement with Integrated Health Care

Inside the hospital system

Horizontal integration – patient centered, disease focused

Vertical integration - patient's longitudinal care; medical personnel's education

In the Community

Integrated hospital management with local hospitals

Integrated patient care with regional clinics and hospitals

Integrated delivery of medical care for the elderly

Horizontal integration I — disease centers

- Cancer center
- Trauma and Emergency Surgery center
- Stroke center
- Sleep center
- Minimal invasive center
- Transplantation center
- Children medical center

Cancer Center at Linkou – amount of service

- **9,000** new diagnosis cases per year in Linkou Chang Gung
- **13%** of cancer patients in Taiwan
- cancer patients accounts for **7%** in outpatient service of Linkou CG
- cancer patients accounts for **19%** in inpatient service in Linkou CG

Operation Model of Cancer Center

Best outcome comes from the best process

- Team treatment : strengthen group advantages
- Guideline : establish standards
- Treatment planning sheet and team conference : consensus and consistence
- Cancer committee : quality assurance mechanism
- Physician certification and core ability training
- Establish the safety control of chemotherapy
- Implementation of cancer care net : Holistic care

Organization Chart of Cancer Center

- Superintendent
  - Cancer committee
  - 癌症研究中心
  - Cancer Center
    - Cancer center office
    - Support teams
      - 護理部
      - 行政中心
      - 經營管理組
      - 院區管理部
      - 資訊管理部
    - Assistance Group
      - 社工師
      - 化療室
      - 心理治療師
      - 個案管理師
      - 營養治療科
      - 其他醫務專科
    - Cancer teams
      - 肝癌團隊
      - 肺癌團隊
      - 乳癌團隊
      - 婦癌團隊
      - 頭頸癌團隊
      - 大腸直腸癌團隊
      - 甲狀腺癌團隊
      - 兒童血液腫瘤團隊
      - 造血系統癌症團隊
      - 胃癌團隊
      - 腦癌團隊
      - 皮膚癌團隊
      - 食道癌團隊
      - 鼻咽癌團隊
      - 胰臟癌團隊
      - 膽道癌團隊
      - 泌尿道癌團隊
      - 軟組織肉瘤/骨癌團隊
      - 腸胃道基質瘤及肉瘤
    - Functional group
      - 癌登小組
      - 安寧推動小組
      - 化療安全小組
      - 癌症醫品小組
      - (含癌症解剖病理品質提升小組、放射治療管控小組)
      - 癌症篩檢小組

Established in 2004 and responsible for implementing the policies of cancer committee, cancer center became a physical department in 2008.

Multi-disciplinary Team Conference

癌症團隊會議時間表

序號	負責癌別	負責人	會議時間	會議時段	地點	
1	肺癌	楊政達	W3	4:00-5:00pm	醫學大樓(1F)	胸腔內科第16號門討論室
2	肝癌	林錫銘	W3	5:00-7:00pm	病理大樓(1F)	X光科圖書室
3	乳癌	陳訓徹	W2	5:30-7:00pm	醫學大樓(3F)	病理科討論室
			每月第1週之W6	7:30am		
4	頭頸癌	廖俊達	W2	7: 30-10:	醫學大樓(3F)	病理科討論室
5	婦癌	周宏學	W4	4:30pm起	醫學大樓(3F)	病理科討論室
6	大腸直腸癌	唐瑞平	W2	7:10-9:00am	病理大樓(1F)	X光科圖書室
7	胃癌	邱正堂	W4	5:00-7:00pm	醫學大樓(5C)	5C會議室
8	腦癌	魏國珍	W2	7:30-8:30am	病理大樓(B1)	放射腫瘤科會議室
9	鼻咽癌	洪志宏	W2	7: 30-10:	醫學大樓(3F)	病理科討論室
10	食道癌	曾振淦	W3	4:00-5:00pm	病理大樓(B1)	放射腫瘤科教室
11	皮膚癌	張承仁	每月2.4週之W3	12:00-13:30	醫學大樓	11D整形外科討論室
12	胰臟癌	黃燦龍	W4	5:00-7:00pm	醫學大樓(5C)	5C會議室
13	膽道癌	葉大森	W4	5:00-7:00pm	醫學大樓(5C)	5C會議室
14	泌尿道癌	莊正鏗	W2	7:30-8:30am	復健13G	13G會議室
15	兒童血液腫瘤	楊兆平	W1	7:30-8:10am	兒童大樓	6L病房討論室
16	造血系統癌症	施麗雲	W4	12:00-13:30	病理大樓	6樓討論室
			每月的第三個W1	07:30:00am	醫學大樓(3F)	病理科討論室
17	軟組織肉瘤/骨癌	廖繼鼎	每月2.4週之W4	1:00-1:30pm	復健大樓	施信農醫師門診
18	腸胃道基質瘤及肉瘤團隊	詹益銀	W4	5:00-7:00pm	醫學大樓	5C會議室
19	甲狀腺癌	林仁德	每月1.3週之W1	2:00-3:00pm	醫學3A	病理科討論室

- **Weekly conference for each team.**
- **>80% attendance rate for core member**
- **>20% discussion rate for new case**

長庚紀念醫院
CHANG GUNG MEMORIAL HOSPITAL

Head and Neck Cancer Team Conference



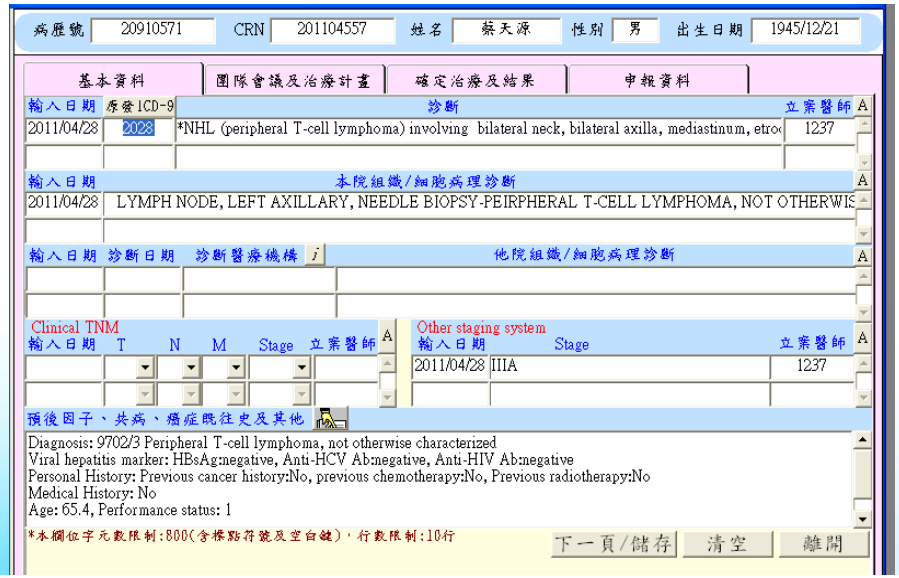






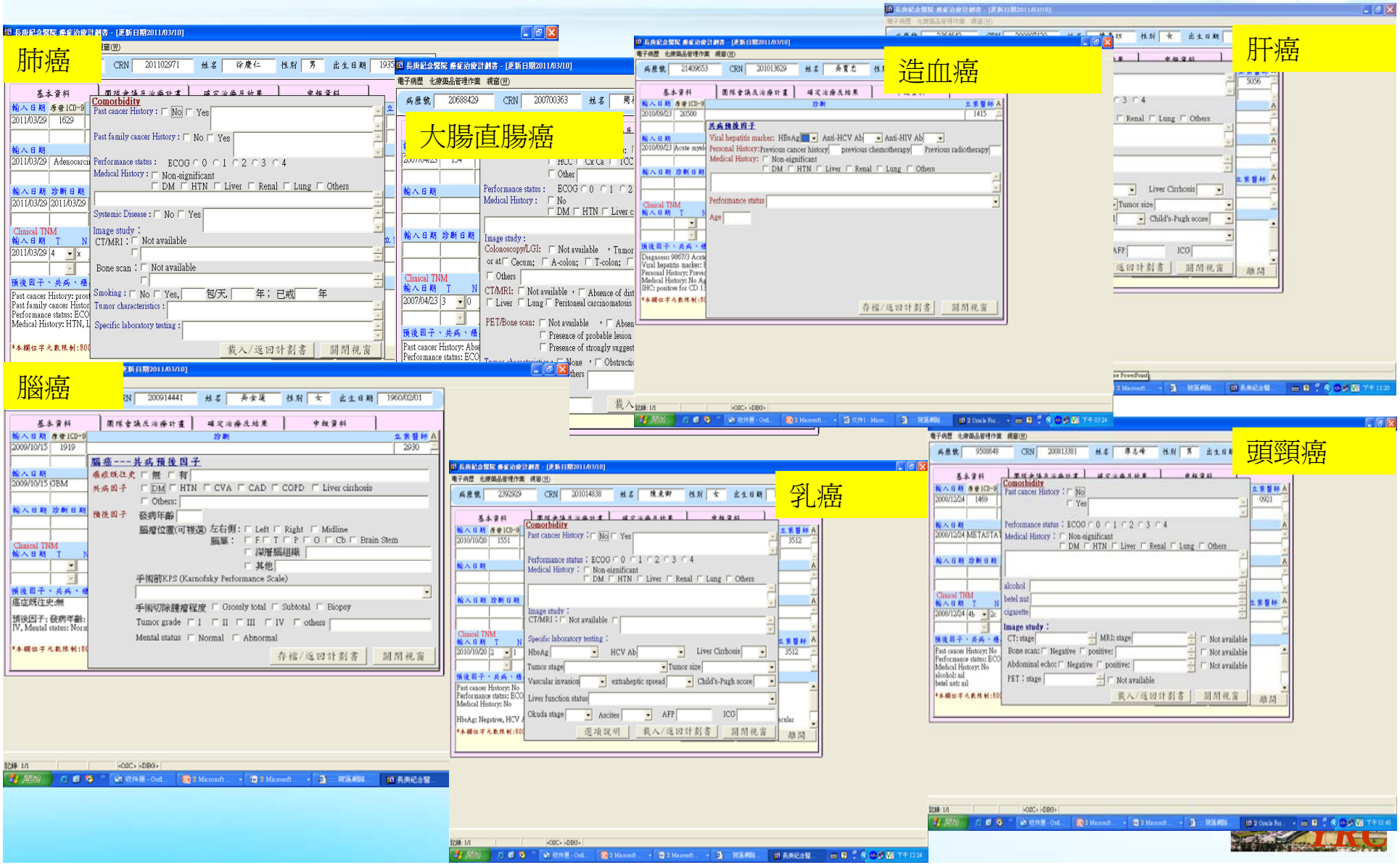

Treatment Planning Sheet

- Discussed in the team conference.
- Approved by team leader.
- Notify attending physician if new information and major changes in planning.
- Show in the HIS system and chart.



長庚紀念醫院
Chang Gung Memorial Hospital

Treatment Planning Sheet for Each Cancer



Continuous Medical Care Service – Cancer Center

Preventive Medicin → **Diagnosis, Enrol** → **Medical care** → **Discharge service**

Cancer screening
- **Oral cancer**
- **Breast cancer**
- **Cervical cancer**
- **Colorectal cancer**

Prenatal examination

Preventive care for Children

Preventive care for Adult

Geriatric health prevention

Diagnosed with stage
- Pathology exam
- CT, MRI staging

Health-care team
- Doctors
- Nurses
- Case manager
- Social worker
- Nutritionist
- Physical therapitst

Cancer center integrated care

Protocol treatment
- **OPD treatment**
  - -R/T
  - -C/T
- **Adm treatment**
  - -R/T
  - -C/T

Nutrition

Medication counseling

Psychology counseling

Family health care
- Family Health Examination
- Family Cancer H

Patient tracking
- Combined clinics
- Follow ups
- Recurrence

Case Manager

Key person of cancer center

- Monitoring patients' status and treatment plans.
- Evaluate the comprehension and acceptability of patients and family members.
- Coordinate the treatment plan.
- Support patients and family members.
- Participate in treatment plan and work with doctors, nurses, nutritionist, pharmacist, and physiotherapist.
- Build the communication bridge between patients and hospital.

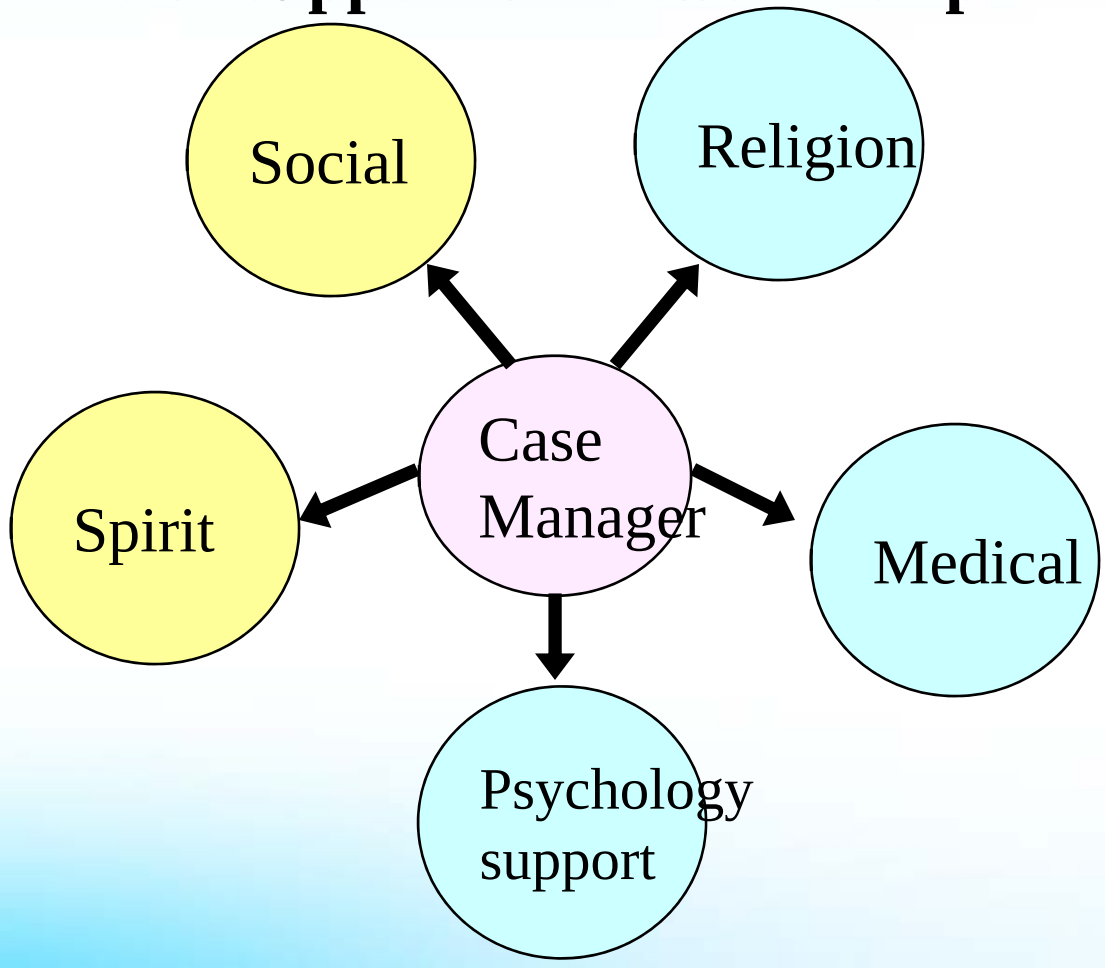
Program for Case Management and Outcome Analysis

長庚紀念醫院 CHANG GUNG MEMORIAL HOSPITAL

癌症別	收案人		收案數	結案數	結案率	拒絕治療人數	拒絕治療比率	中斷治療人數	中斷治療比率	遵從治療人數	遵從治療比率		
乳癌	DMG	洪雪芝	487	56	11.5	0	0	2	.41	485	99.59	結案分析	收案明細
肝癌	DO6	王靜婷	319	20	6.27	1	.31	0	0	319	100	結案分析	收案明細
口腔癌	DXJ	張雅嵐	324	36	11.11	0	0	1	.31	323	99.69	結案分析	收案明細
其他部位頭頸癌	DXJ	張雅嵐	4	1	25	0	0	0	0	4	100	結案分析	收案明細
唾液腺癌	DXJ	張雅嵐	19	1	5.26	0	0	0	0	19	100	結案分析	收案明細
鼻、鼻竇癌	DXJ	張雅嵐	6	0	0	0	0	0	0	6	100	結案分析	收案明細
肺癌	DZQ	劉慧玲	409	48	11.74	2	.49	3	.73	405	99.02	結案分析	收案明細
食道癌	DZQ	劉慧玲	102	24	23.53	0	0	3	2.94	99	97.06	結案分析	收案明細
大腸直腸癌	I93	簡廷倫	390	134	34.36	2	.51	9	2.31	379	97.18	結案分析	收案明細
咽喉癌	JQB	陳玉燕	162	30	18.52	2	1.23	1	.62	159	98.15	結案分析	收案明細
鼻咽癌	JQB	陳玉燕	118	21	17.8	3	2.54	2	1.69	113	95.76	結案分析	收案明細
總計			3968	652	16.43	14	.35	50	1.26	3906	98.44		

Comprehensive supportive network

- **Integrate the social resource and Provide a comprehensive supportive network for patients.**



Control of Medical Quality

Oral Cancer-Core measurement：Treatment

- Definition: % of pts starting RT<6 wks post-surgery
  - Numerator: pts starting RT<6 wks in denominator.
  - Denominator: pts receiving surgery and RT
- Rationale：affect local control rate

Year	numerator	denominator	%
2008	93	198	47%
2009	92	158	58%
2010	146	174	84%

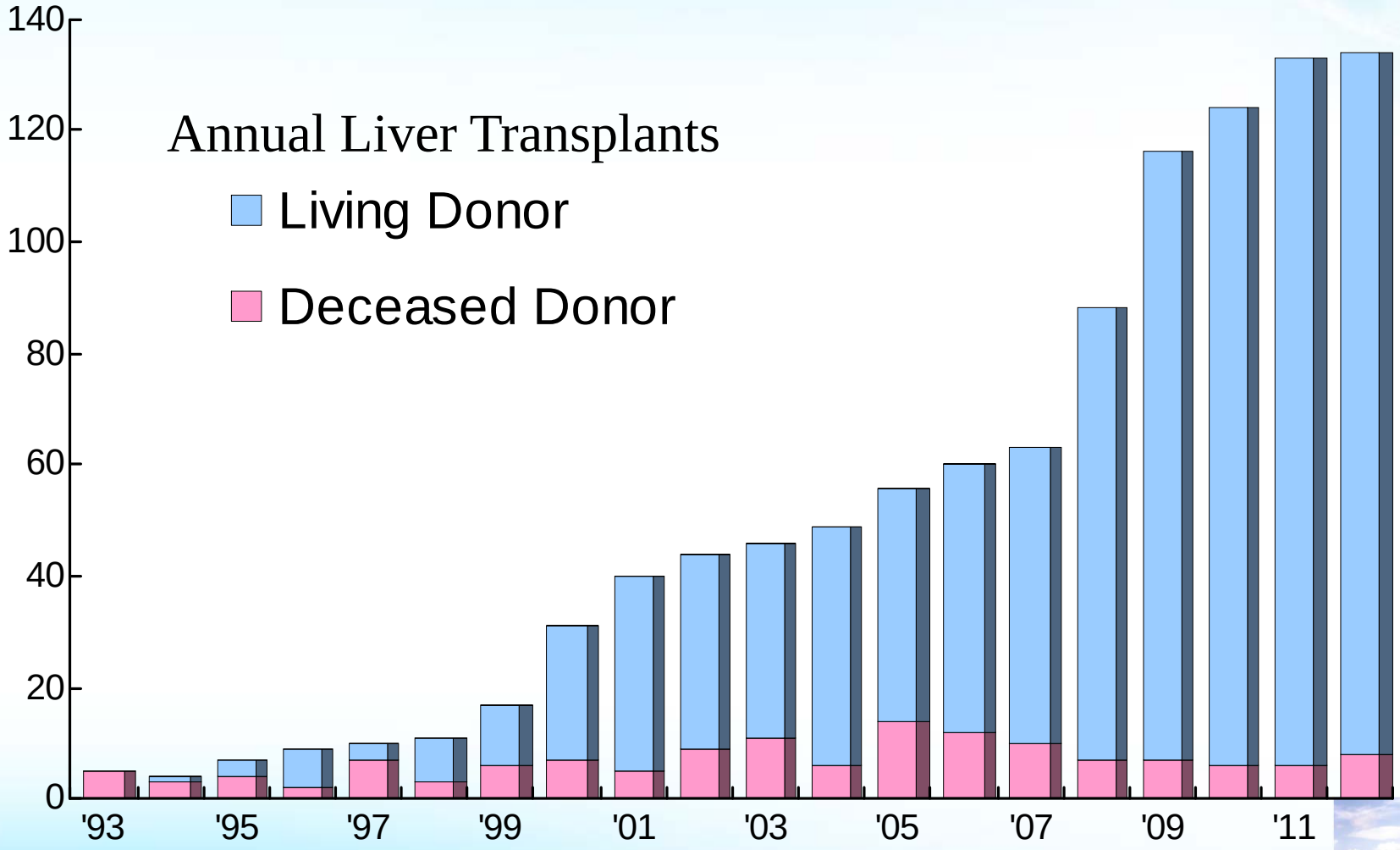
Chang Gung and National 5-yr Survivals

	Cx		Colon-rectal		Oral cavity		Lung		Breast		Liver	
%	C	N	C	N	C	N	C	N	C	N	C	N
I	89	85	86	83	81	81	61	63	96	96	52	46
II	77	67	81	75	79	74	52	41	90	90	32	32
III	53	49	63	58	65	59	12	13	71	72	10	10
IV	23	19	12	12	43	39	5	5	28	26	2	2

Integrated Care – Centers of Excellence

- **Cancer center in Linkou –** bench marking cancer center in Taiwan
- **Transplantation Center in Kaohsiung –** world's best survival rate in living-donor liver transplantation
- **Craniofacial center in Taoyuan -** international training center for craniofacial surgery and craniofacial dentistry
- **Microsurgery reconstruction center in Linkou –** world leading micro-vascular, micro-neural and head neck reconstruction center

Kaohsiung Chang Gung Memorial Hospital



Liver Transplant in Taiwan

2001-2011

Published on March 22, 2013

Hospital	Case No.
Kaohsiung Chang Gung MH	**742**
Linkou Chang Gung MH	417
National Taiwan University H	352
China Medical University H	296
Taipei Veterans General H	223
Tri-Service General H	192
Changhua Christian H	108
Taichung Veterans General H	97
National Cheng Kung University H	42
Tzu Chi General H	32
Chi Mei H	27

Hospital	Case No.
Far Eastern MH	16
Da Lin Tzu Chi General H	16
Mackay MH	14
Kaohsiung Medical University MH	14
E-DA H	11
Show Chwan MH	7
Cardinal Tien Hospital	7
Tungs' Taichung MetroHarbor H	6
Cathay General H	2
Chiayi Chang Gung MH	2
Total	2623

http://www.nhi.gov.tw/information/NewsDetail.aspx?menu=9&menu_id=544&No=1079

Top 3 Centers in Taiwan

Pediatric 2001-2011 Published on March 22, 2013

	Case No.	3-Year Survival	5-Year Survival
✓ Kaohsiung Chang Gung MH	143	92%	90%
National Taiwan University H	100	87%	84%
Taichung Veterans General H	25	85%	82%
Taiwan Overall	314	85%	83%

Adult 2001-2011

	Case No.	3-Year Survival	5-Year Survival
✓ Kaohsiung Chang Gung MH	599	91%	89%
National Taiwan University H	252	84%	80%
China Medical University H	294	79%	76%
Taiwan Overall	2309	80%	76%

http://www.nhi.gov.tw/information/NewsDetail.aspx?menu=9&menu_id=544&No=1079

Liver Transplant for HCC

Authors	Year	Actuarial Survival		Journal
		1 year	5 year	
Mazzafero	1996	90%	75%	NEJM
Bechstein	1998	88%	71%	Transplant Int
Llovet	1999	84%	74%	Hepatology
Iwatsuki	2000	73%	49%	J Am Coll Surg
Yao	2001	91%	72%	Hepatology
Margarit	2002	81%	58%	World J Surg
Perez- Saborido	2003	79.3%	50.3%	Transplant proc
Leung	2004	80.3%	46.7%	Liver transplantation
Zavagilia	2005	84%	72%	Am J Gastroenterol
Grasso	2006	79%	53%	Transplantation
Sugawara	2007	91%	75%	Dig Dis
Chen CL	2008	98%	90%	Transplantation

Chen CL, Liver Transplantation, In: Hepatocellular Carcinoma, Lau WY (ed.), 2008 (Updated from)

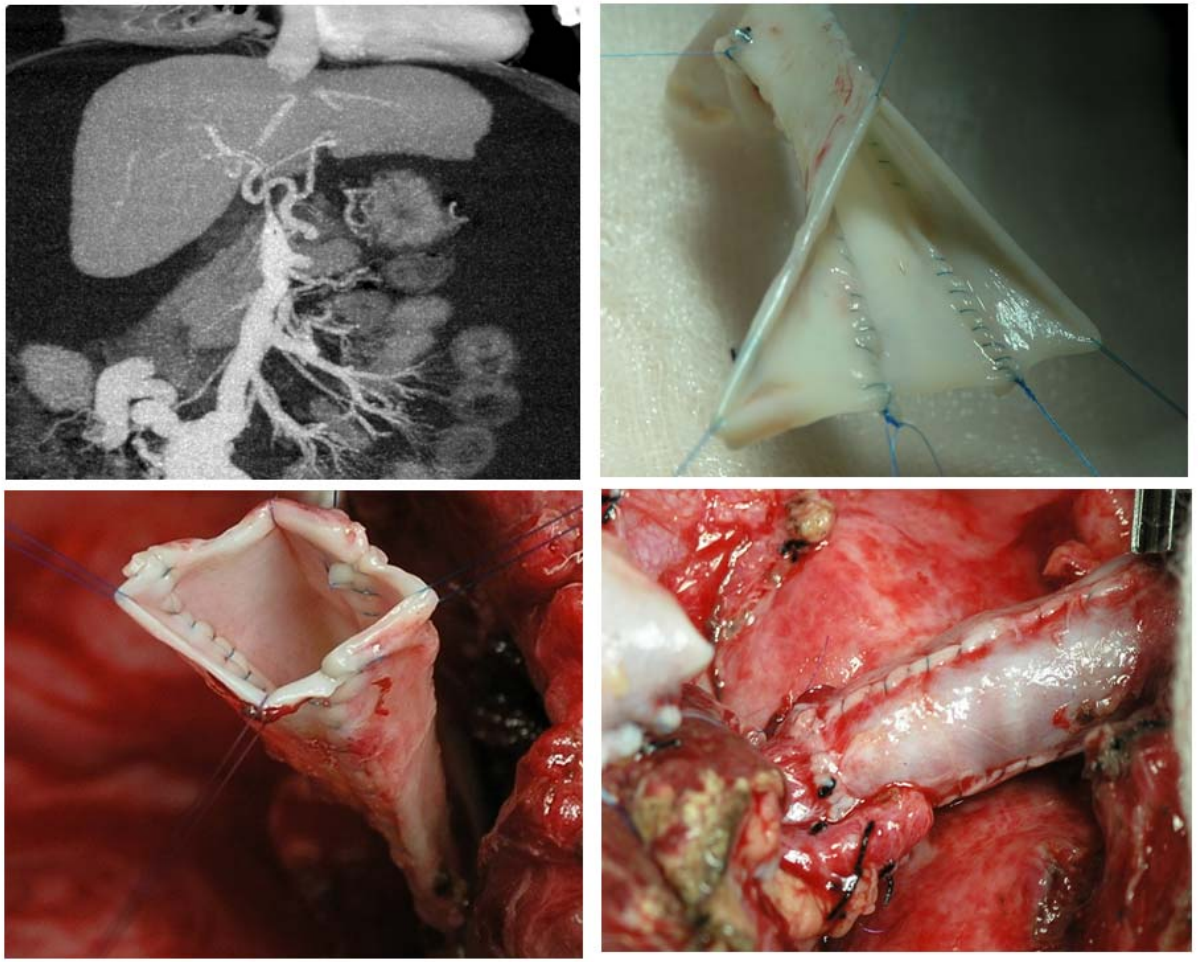
Minimal Blood Loss LD Hepatectomy

- Detailed preoperative imaging study
- Meticulous surgical technique
- Low CVP
- Minimal blood loss
- No blood transfusion

	Left	Right	Total
Case no.	152	184	336
Blood Loss	72.5 ± 62	112.6 ± 73.2	94.6 ± 71

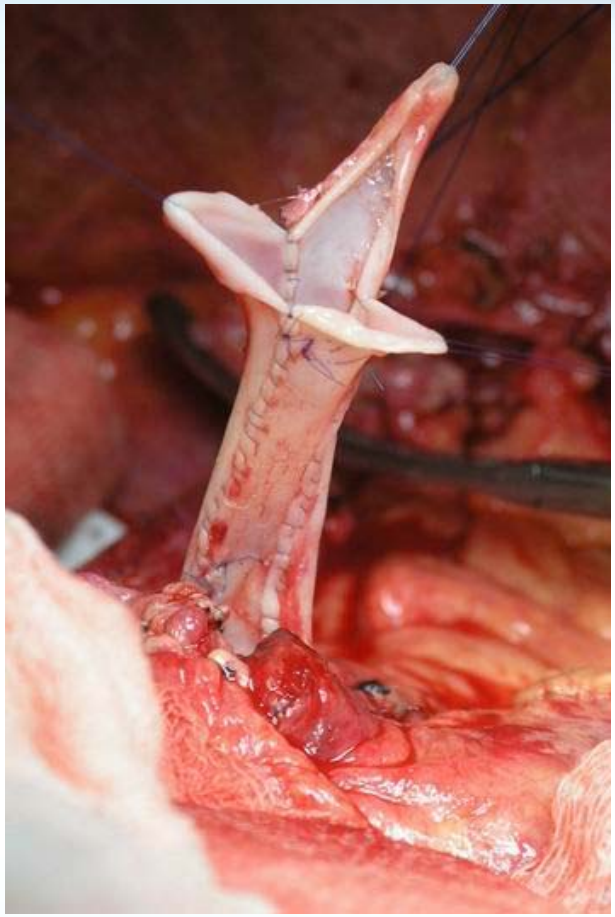
Chen CL, et al. Transplantation 2000; 69: 2580
Ibrahim S, Chen CL, et al. Liver Transplant 2006; 12:950

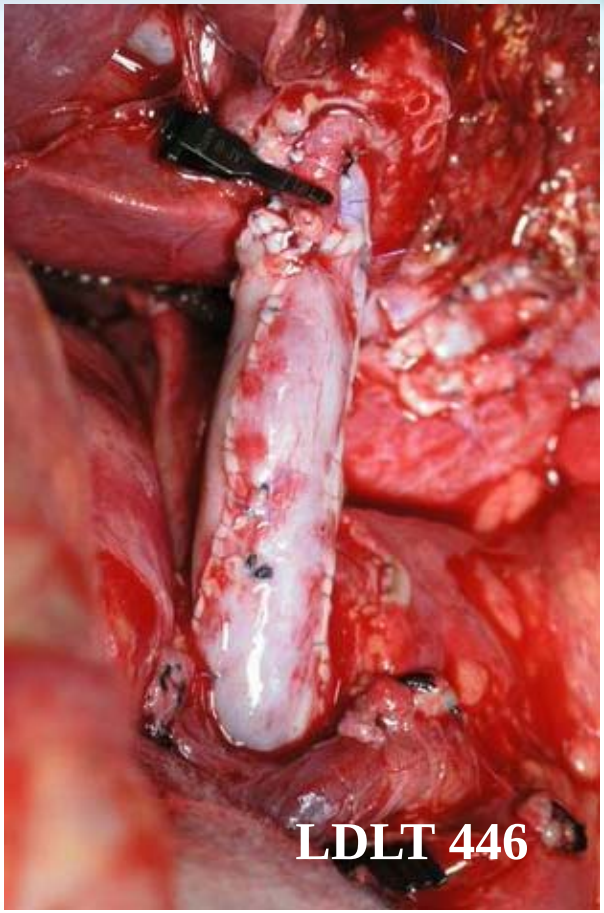
Remodeled Portal Vein Graft



Chen CL et al. Liver Transplant 2007;13:1472

Remodeled Portal Vein Graft





saphenous, ovarian & inferior mesenteric veins

1000th liver transplant

July 24, 2012

biomedexperts
your scientific match point

Experts active in the community

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- More than 3,500 Organizations worldwide
- State of the Art Network Visualizations
- Manage your own Profile

NetworkView

KCGMH staff among the leading LDLT global experts : 1 in top 10, 3 in top 30, 5 in top 50

Experts in Living Donors

Non-cadaveric providers of organs for transplant to related or

Top authors

Makuuchi, Masatoshi	Inomata, Yukihiro
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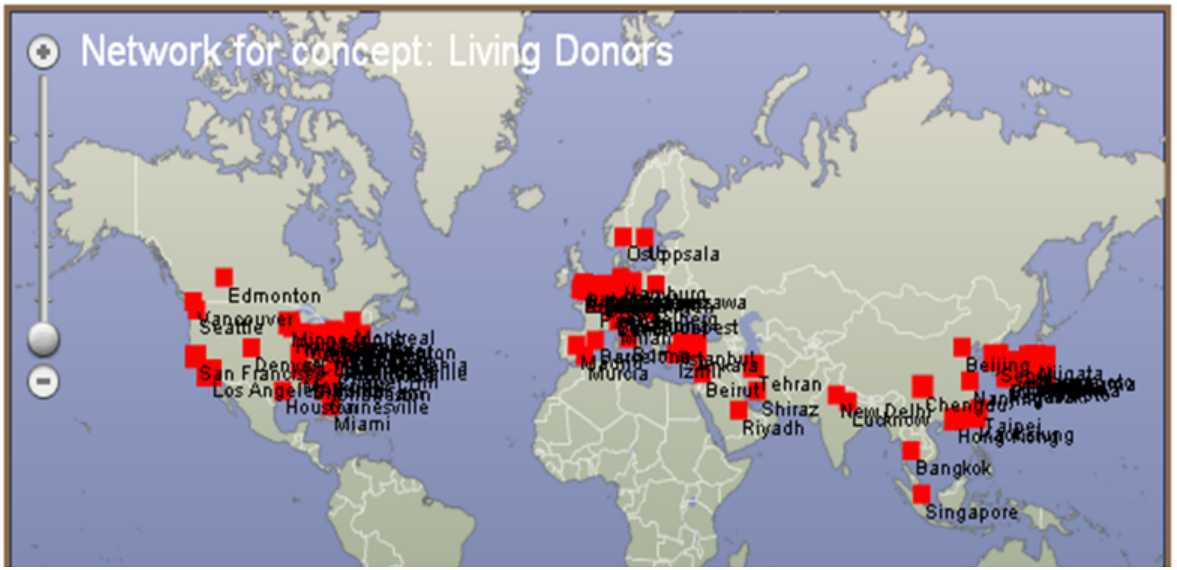
Hwang, Shin	Ikegami, Toru



Integrated centers : centers of excellence

- **Right persons – start with study group, study reports and find out the possibilities**
- **Set up highest goal: try to get the best result (be the best in some part, some where!)**
- **Send the staff for the best training, invite masters or leading team to visit and get their advice**
- **Support from the administrators and from the system**

Sleep Center
Chang Gung Memorial Hospital

Toward Comprehensive
Interdisciplinary Academic Sleep Center

Sleep apnea age

1994
- **1 bed sleep lab in pulmonary department**

1995
- **Sleep research meeting(by Chen, Yu-Ray):Chest, ENT, Plasty, Orthodontics, Radiology, and Pediatrics**

1998
- **Joint Outpatient Service: Interdisciplinary cooperation**

Sleep medicine age

2000
- **6 beds sleep labs, Psychiatric and Neurologist join the meeting and clinics**

2000~2004
- **9 beds, Members re-education of sleep medicine:**
- **NH Chen, HY LI, YH Huang, SJ Hsu, YF Lia et al. Trained in Stanford, Edingburg, England, Shiga**

Sleep center age

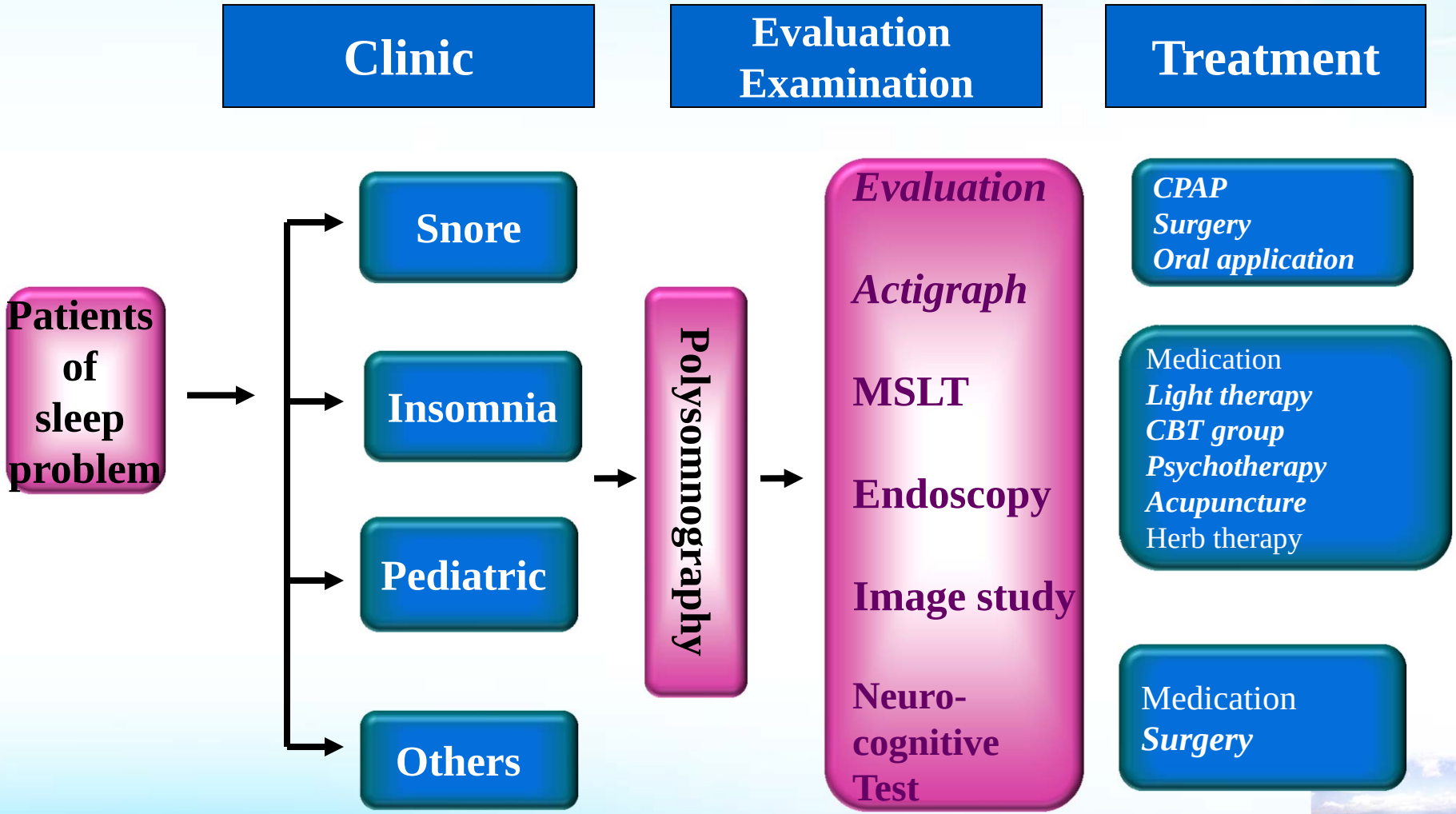
2007
- **Multi-disciplines in one specialty**

Sub-Specialty Education of Sleep for the Staff in Sleep Center

Name	Specialty	Training site	year
Ning-Hung Chen	Chest	Stanford Sleep Disordered Center, USA	2000
		U. Of Penn, USA	2009
Hsueh-Yu Li	ENT	Edinburg University, UK	2001
Yu-Shu Huang	Pediatric Psychiatry	Stanford Sleep Disordered Center, USA	2004
Shieh-Chieh Hsu	Psychiatry	Shiga University, Japan	2005
Cheng Hwei Lin	Plastic Surgeon	Stanford University, USA	2009
Hsu-Lan Liu	Technician	Stanford University, USA	2000
Chia-So Wu	Psychologist	Rochester University, New York City University	2010

Sleep Center
Integrated Multi-discipline in one Specialty

Most of sleep disorders can be diagnosis and treated in our sleep center



Sleep Center

Clinic: Combined clinic

Lab: 12 PSG Study Room

Clinic waiting Area

PSG Study Room

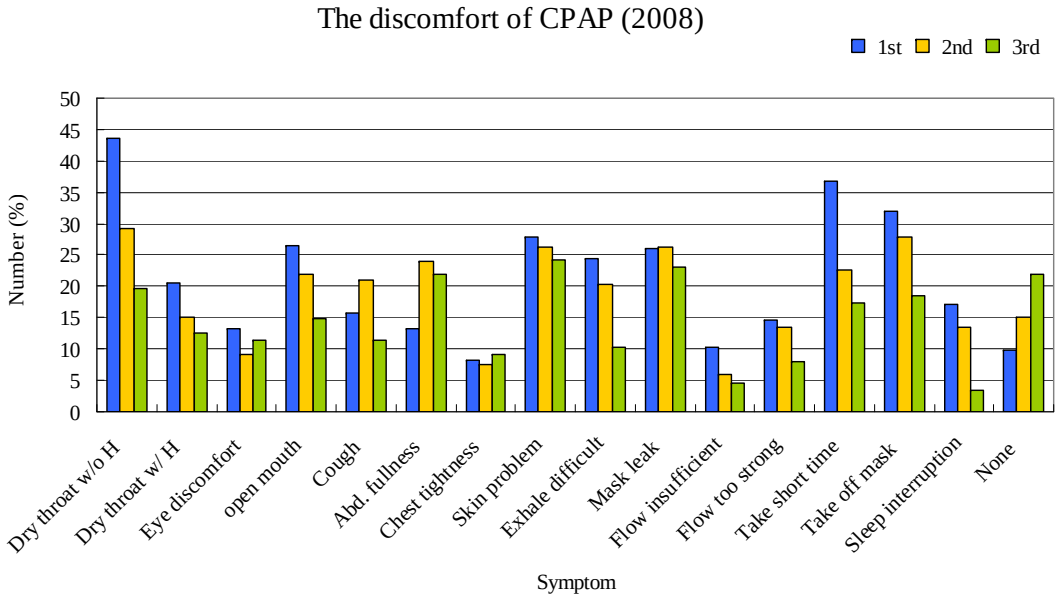
Control Center

CPAP Treatment

1. A case of Crouzon syndrome with ADHD and OSA could sleep well after putting on CPAP。

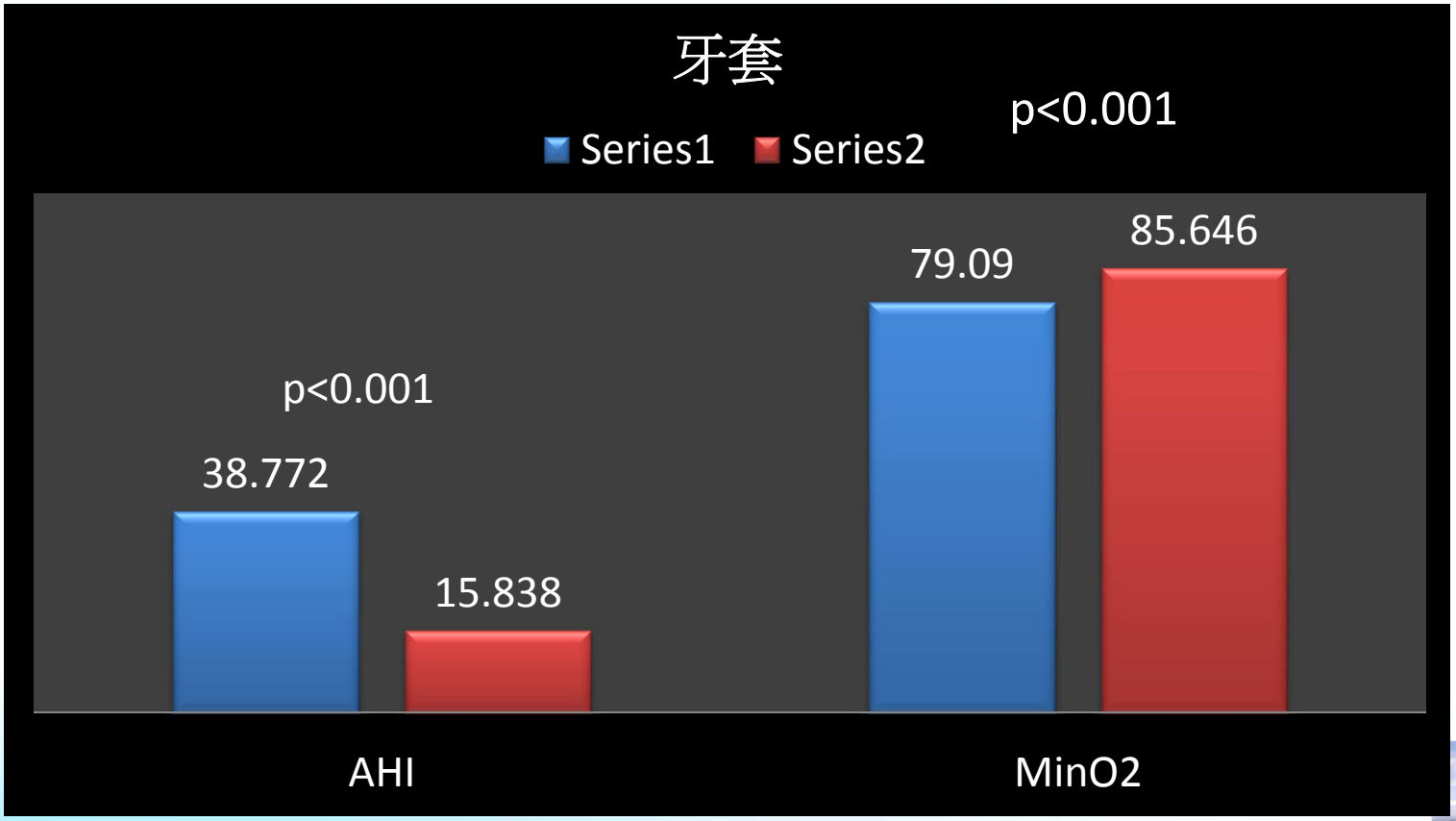



2. The discomfort of CPAP usage could be alleviated after intensive care



The Treatment Effect of Oral appliance (OA) on Patient of OSA

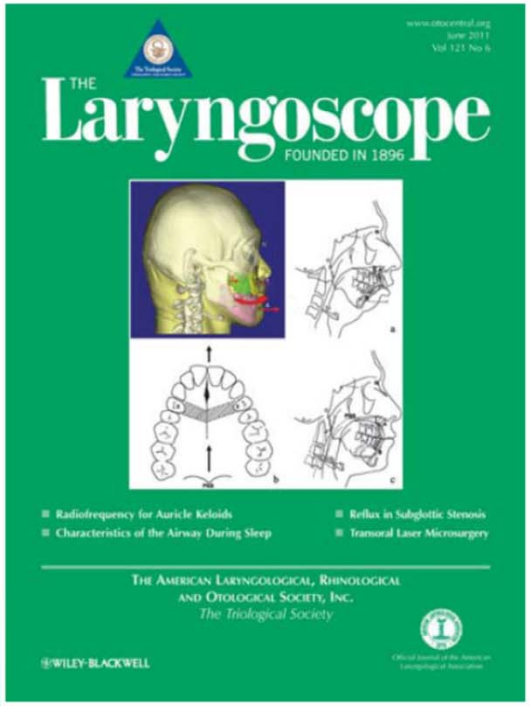
The effect of OA is best on mild to moderate severity, young, and retrognathic patients



Treatment effect of Surgery

Segmental Maxillomandibular Rotational Advancement

Successful rate of **SMMRA** is 96.6% till 2011 June (30 cases), Been published on Laryngoscope and cited as the Cover of the Journal



On the Cover

To achieve optimal maxillofacial movements and simultaneously a fairly straight profile for obstructive sleep apneics, Lin et al. introduce segmental maxillomandibular rotational advancement, through examining the correlation between changes of airway dimensions and skeletal rearrangement. In the cover figure, segmental osteotomy of maxilla facilitates further advancement of the posterior segment, including posterior nasal spine. Counterclockwise rotation of maxillomandibular complex keeps up the facial profile and reinforces the mandibular advancement to a distance more than commonly reached. For further reading, please see the article on page 1336 by Lin et al.

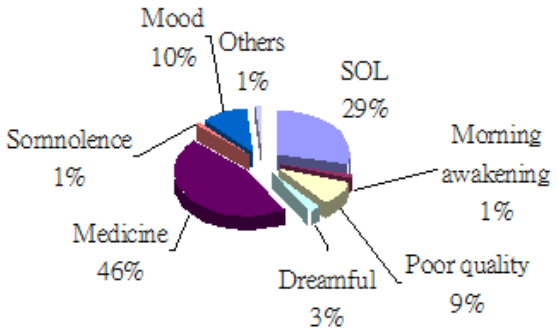
Airway and Appearance

Laryngoscope,
121:1336-1347, 2011

Treatment Effect of Insomnia
Non Pharmaceutical Treatment

Cognitive Behavioral Therapy (CBTi)

- Duration
  - One year
- Case Number
  - Individual: 395
  - Group:48
- Treatment: CBTi, 4-6 weeks
- Inprovement:
  - **31% (in previous no medication patients): Sleep latency significant decrease**
  - **61% (use medication before): decrease the amount of medicine**



Complaints of patients

Treatment Effect of Insomnia
Non Pharmaceutical Treatment

Chinese Acupuncture-Ear puncture

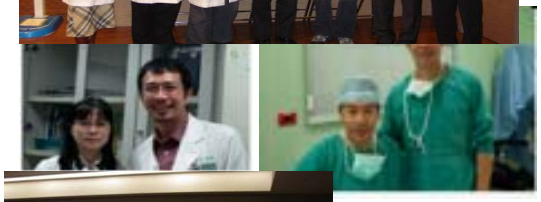
- Duration:
  - one year
- Case Number:
  - 117
- Treatment: Ear Acupuncture:
  - 神門(Shenmen MA-TF1)
  - 心(Xin MA)
- Improvement:
  - **Decrease the number of sleep pills usage significantly**
  - **Improve of Quality of Life (SF-36)**
  - **Improve of depression and anxiety score**

  (on Questionnaire of BDI and BAI)
  - Not improve on sleep latency and total sleep duration
- Further Chinese Medicine will been administrated in the future

International Fellowship

From Philippine、Hong Kong、Singapore、China、Korea

Time	Hospital	Physicians	Target
2006	St. Luke's Medical Center, Philippine	Keith Aguilera	Diagnosis and treatment of obstructive sleep apnea syndrome.
2008	Sestu Day Care Center,Italy	Gian Luca Armas	Sleep Apnea Surgery
2008	St. Luke's Medical Center, Philippine	Duane Salud	Sleep medicine& Sleep Apnea Surgery
2009	St. Luke's Medical Center, Philippine	Instrella Romulus Roberto Peter	Sleep medicine& Sleep Apnea Surgery
2009	Chinese University of Hong Kong	Dinnis Lee	Sleep Apnea Surgery
2009	Chinese University of Hong Kong	Wai Talen	Sleep Apnea Surgery
2009	Changi General Hospital, Singapore	Chang Keat Ying	Therapeutic approach to OSA
2011	United Christian Hospital	Victor Abdullah	Diagnosis and treatment of sleep medicine



Lectures and Leading International Societies

- India 2007 India sleep society, Sleep Con
- Japan 2007, 2009,2011 Japan sleep research society, Japan ENT society etc.
- Korea 2009 Korean sleep research society
- Hong Kong 2008 、 2010 、2011 Hong Kong Society of Sleep Mediicne、2008 Hong Kong Society of Pediatric Respiration
- Philippine 2009, Phi Society of Sleep Medicine
- Singapore 2010, Chan-Yi Sleep Forum
- China 2008 、 2009 、 2010 、 2011 ：
- USA 2008 APSS
- Neitherland 2009 International Sleep Surgeon Society
- Italy 2010 Congress of The International Pediatric Sleep Association Joint Meeting 。
- ----- etc, on every field of sleep medicine

Plastic Surgery at Linkou Chang Gung M. H.

Attending	37
Resident	14
Plastic OR	23
Micro ICU	24
Burn Center	30

Chairman: *CH Lin*

Craniofacial Center: *PKT Chen*

Microsurgery: *MH Cheng*

General and Cosmetic: *CJ Chang*

Trauma Plastic: *CT Chen*

Burn Center: *JY Yang*

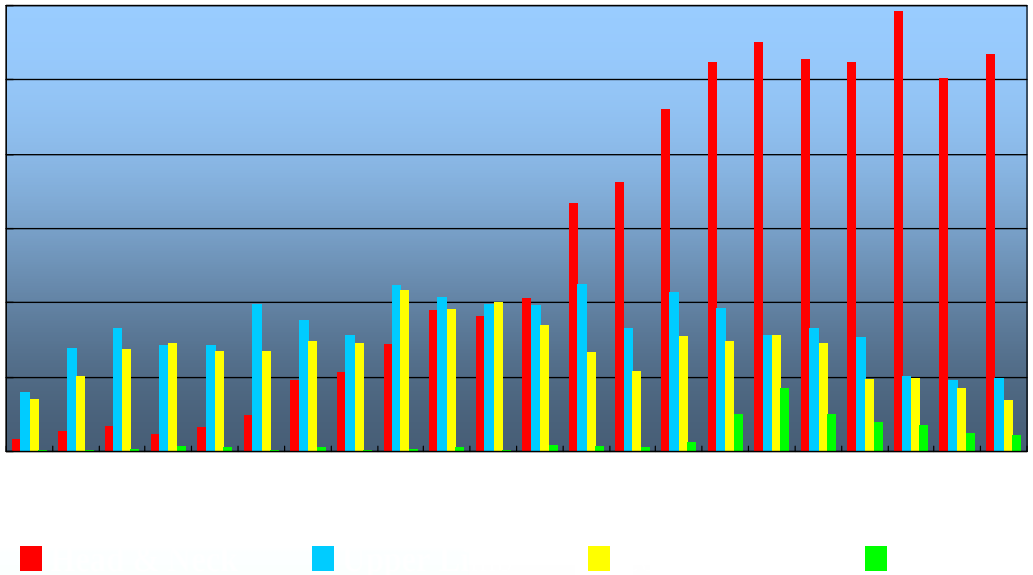
FC Wei

長庚紀念醫院
CHANG GUNG MEMORIAL HOSPITAL

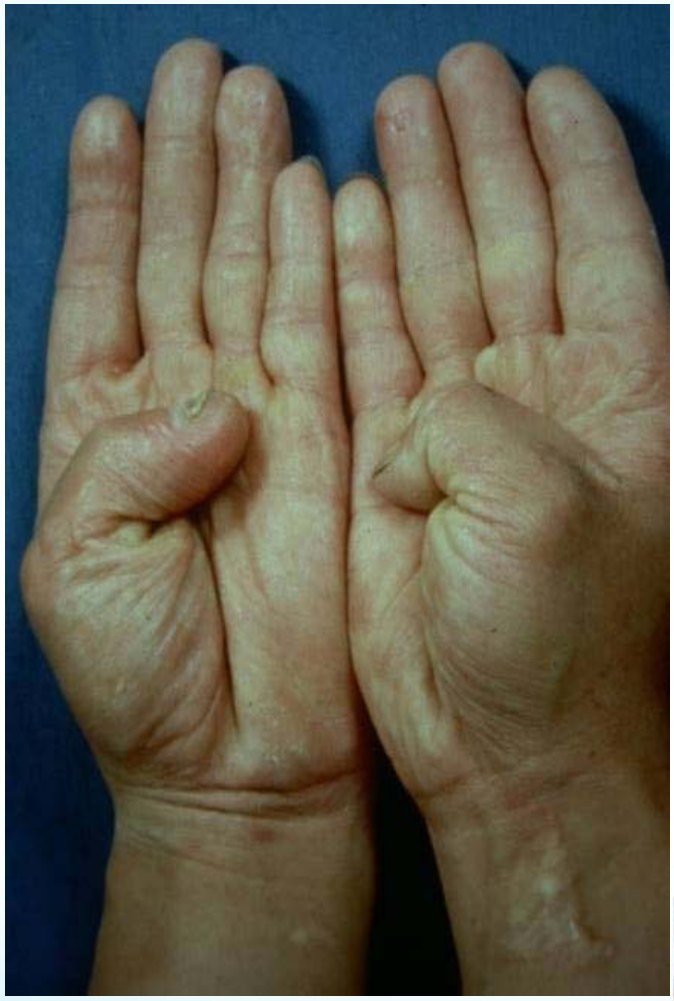
Microsurgery

Free Tissue Transfers

Total: 13,011



Trimmed Toe Transfer (TTT)

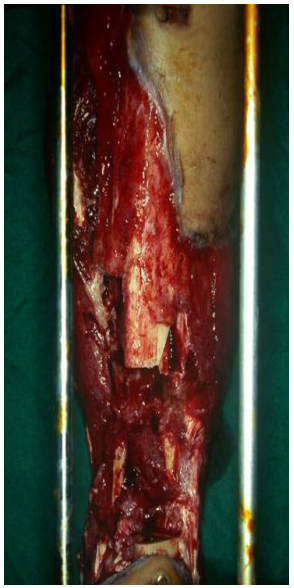


Upper extremity

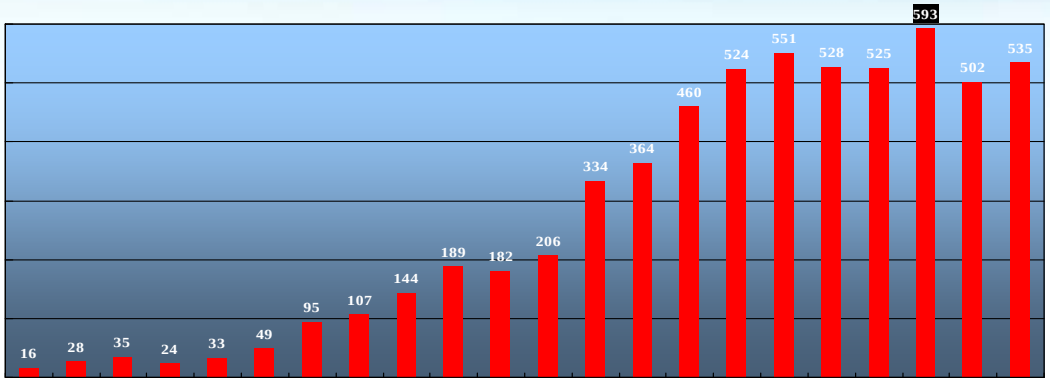



Lower extremity




Head & Neck Cancer

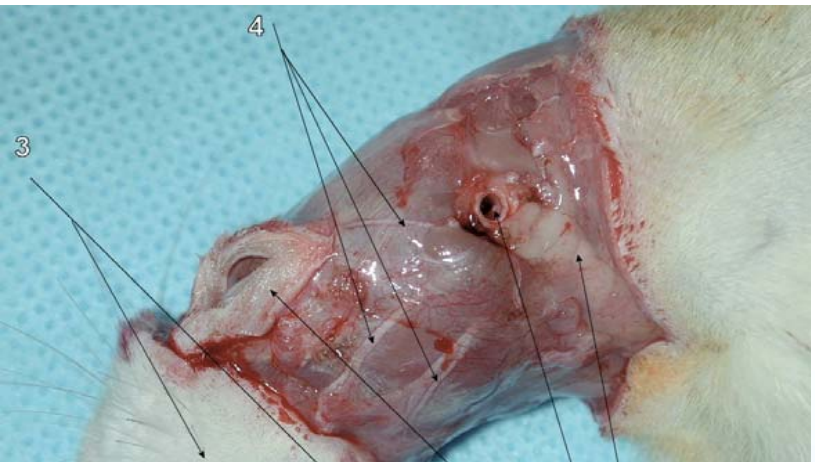


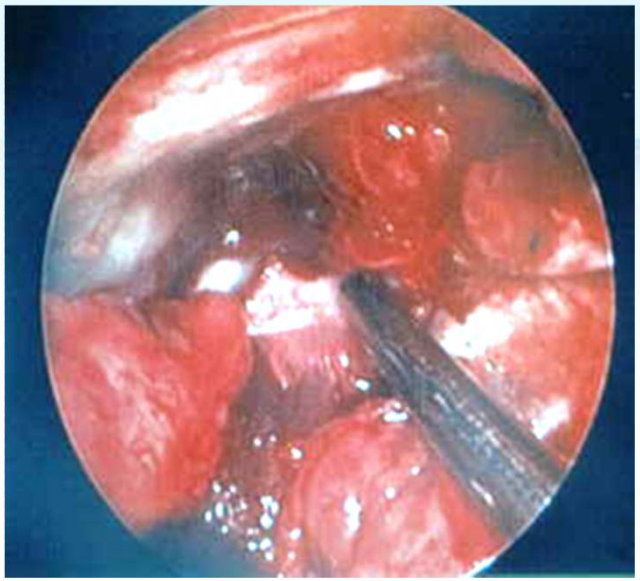
Facial Palsy Reconstruction

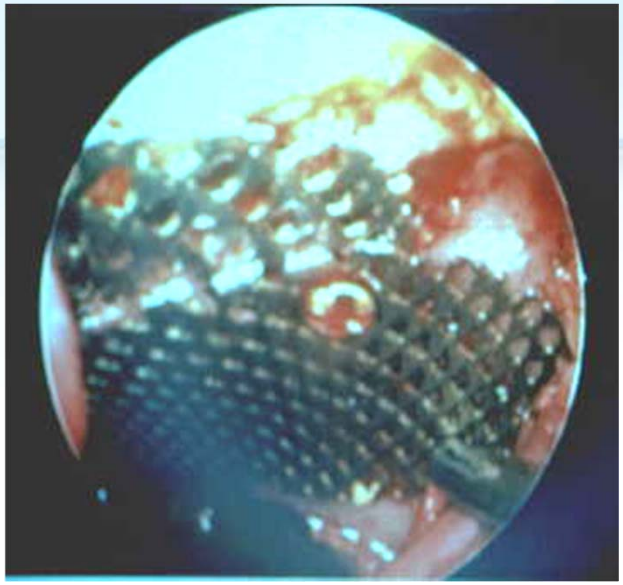
CC Chuan

(275 cases, from 1986~2006)

Composite Face Allotransplantation








FOV 20.0cm
ONE/1
R
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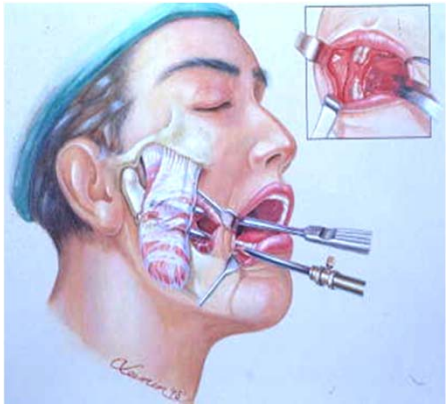
Endoscopic Craniofacial Surgery

CT Chen

Minimal invasive, early recovery, and less scars

For orbital, zygomatic and TMJ fractures

The combination of endoscopy and distraction osteogenesis

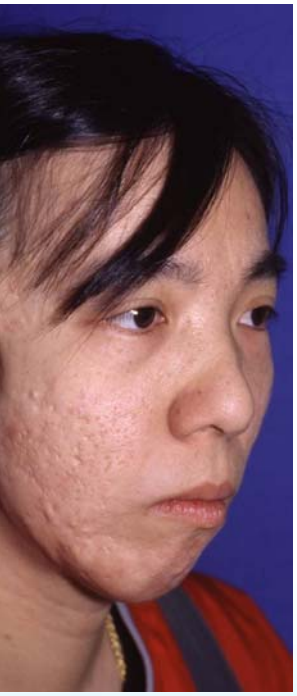


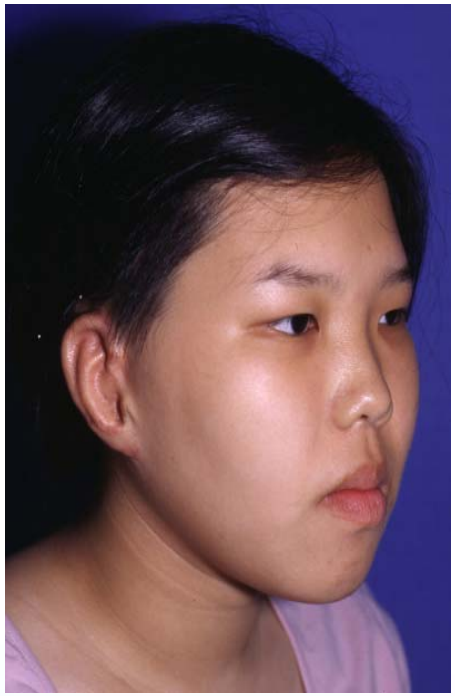
PRS 1999; Brit J Plast Surg 2000; PRS 2001;

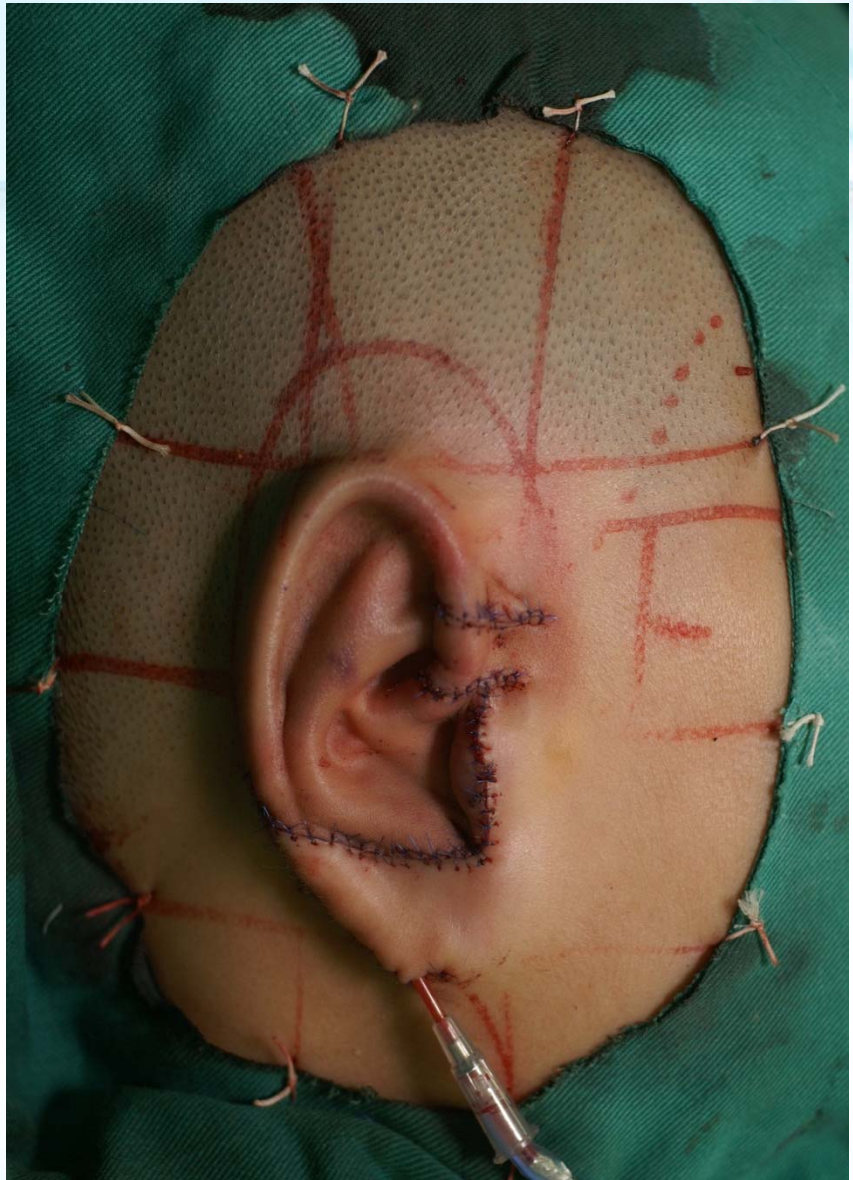
J Trauma 2003; J Craniofac surg 2007

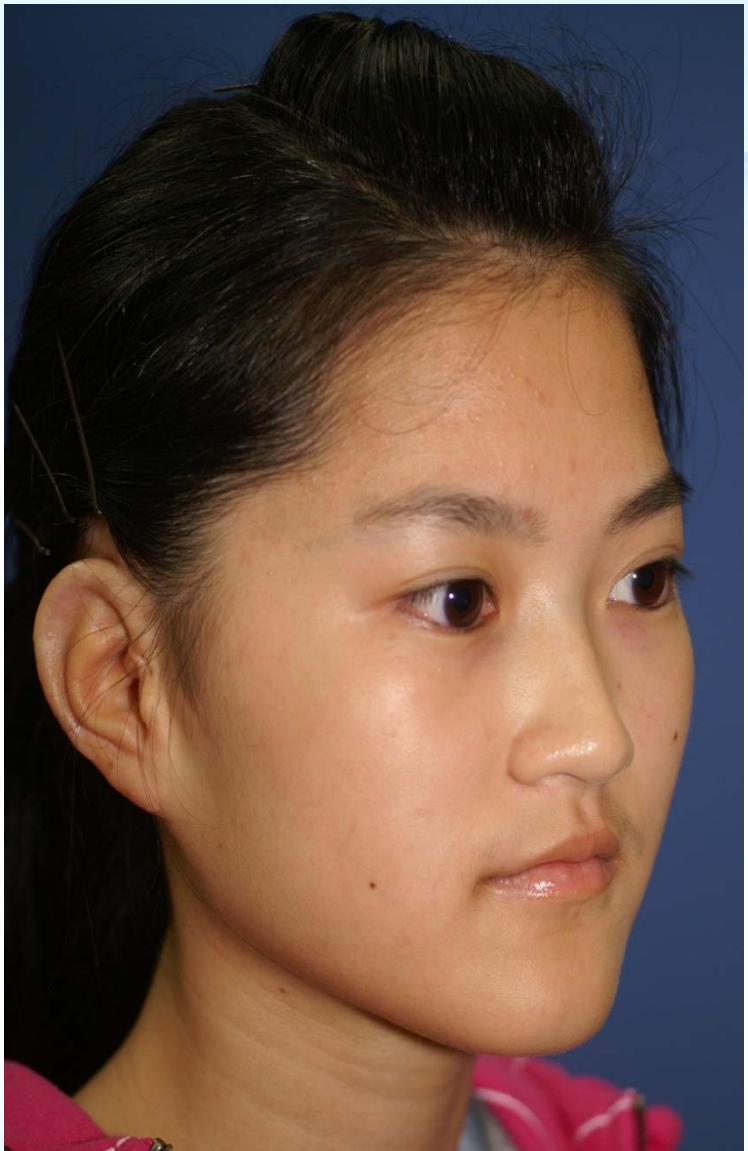
Microtia reconstruction

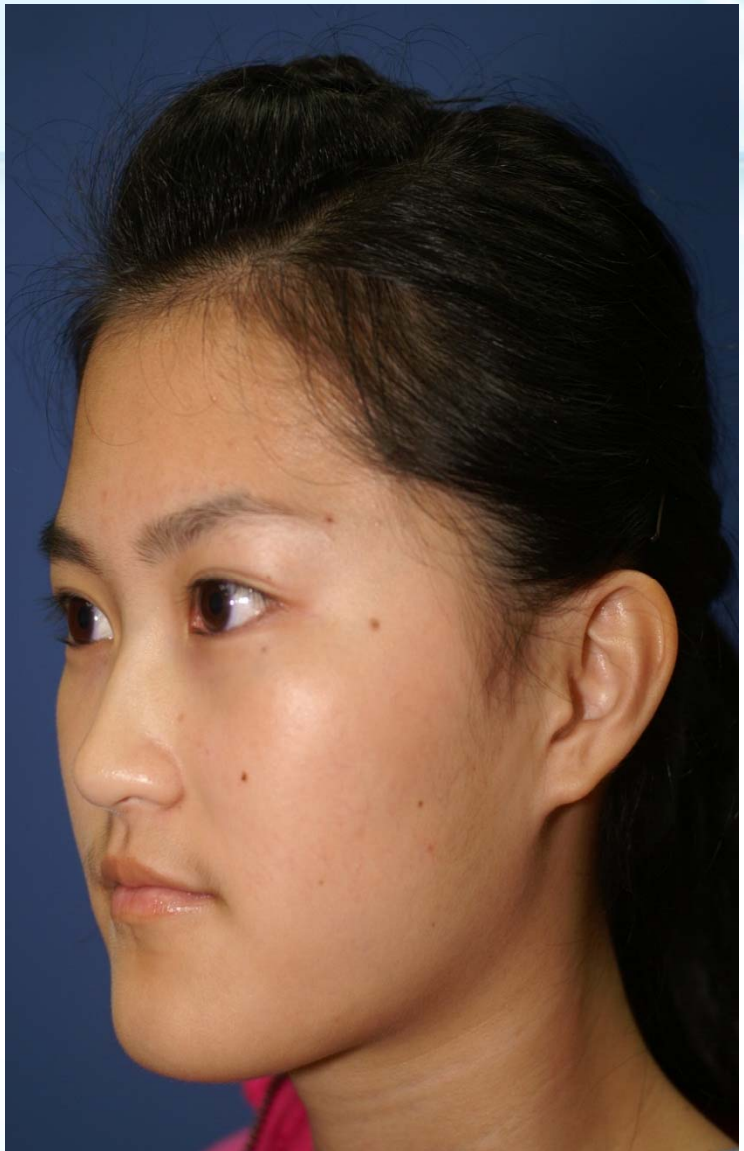
ZC Chen









Craniofacial Dentistry

D Huang *E Liou*

Total publications: 82 citations in Pub Med

Numerous publications in Proceedings

Ongoing research projects (NSC): 3

Planning research projects: 3

Awards: The best clinical article in Am J Orthod Dentofac Orthop, 1998

The best paper in PRS, 2001

Improved Outcome in Primary Lip Repair

LJ Lo

長庚紀念醫院
CHANG GUNG MEMORIAL HOSPITAL

Integrated Care – Center of Excellence

hang Gung Craniofacial Center

stic surgeons	Speech
thodontists	Audiology
urosurgeons	Social Worker
T surgeons	Anesthesiologist
hthalmologists	Pediatrics

Chang Gung Craniofacial Center
-NCF Surgery Mission - *Strategy*

stage: To operate, demonstrate and lectures

d stage: To train local “seed” doctors in C.G.

l stage: To establish local plastic team/center

stage: To set up local Plastic/CF foundation

Chang Gung CFC Surgery Missions

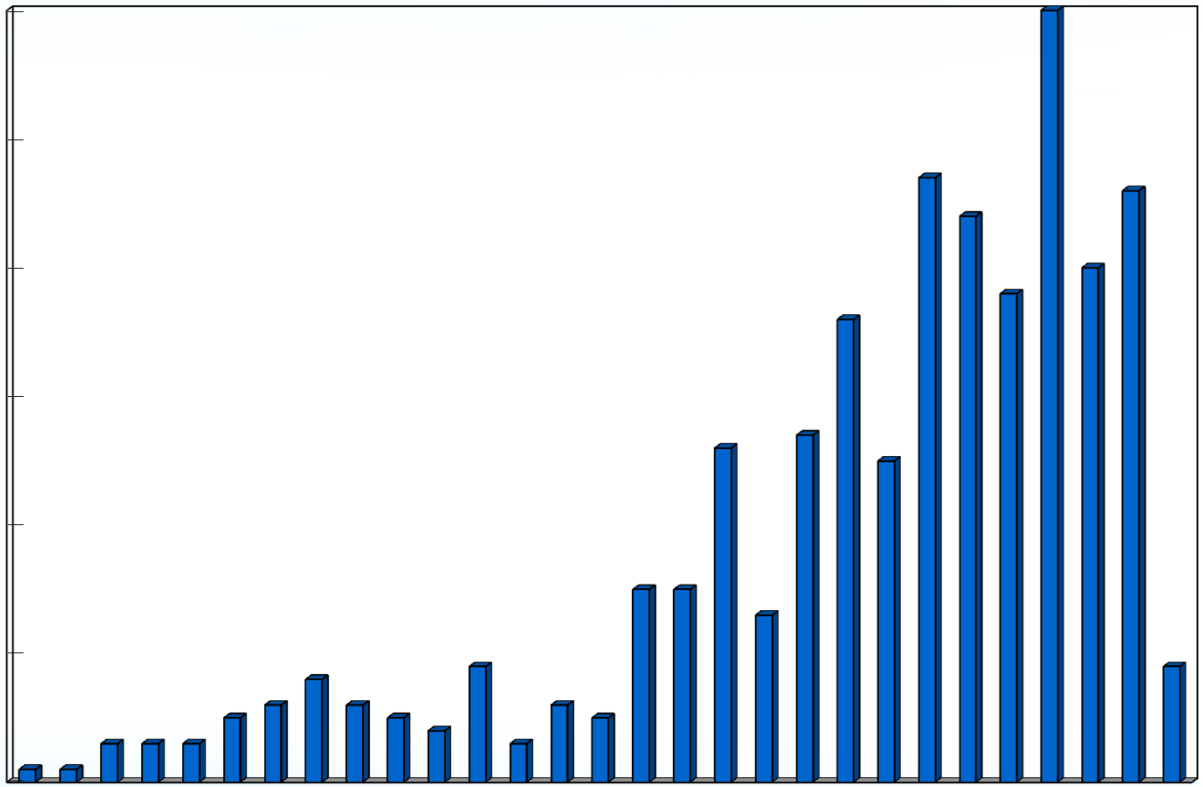
98 Vietnam, Cambodia
99 Mindanao, Philippines, Cambodia
00 Vietnam, Nepal, Philippines, Cambodia
01 Vietnam, Philippines, Cambodia, China
02 Philippines, Cambodia, Pakistan
03 Vietnam, Philippines, Cambodia
04 Pakistan, Myanmar, Cambodia, Vietnam
05 Pakistan, Philippines, Dominica, Cambodia, Vietnam, China
06 Philippines, Vietnam, China, Cambodia, Dominica
07 Pakistan, China, Philippines, Cambodia
08 Laos, China, Indonesia, Cambodia
09 China, Philippines
10 China, Mongolia, Cambodia

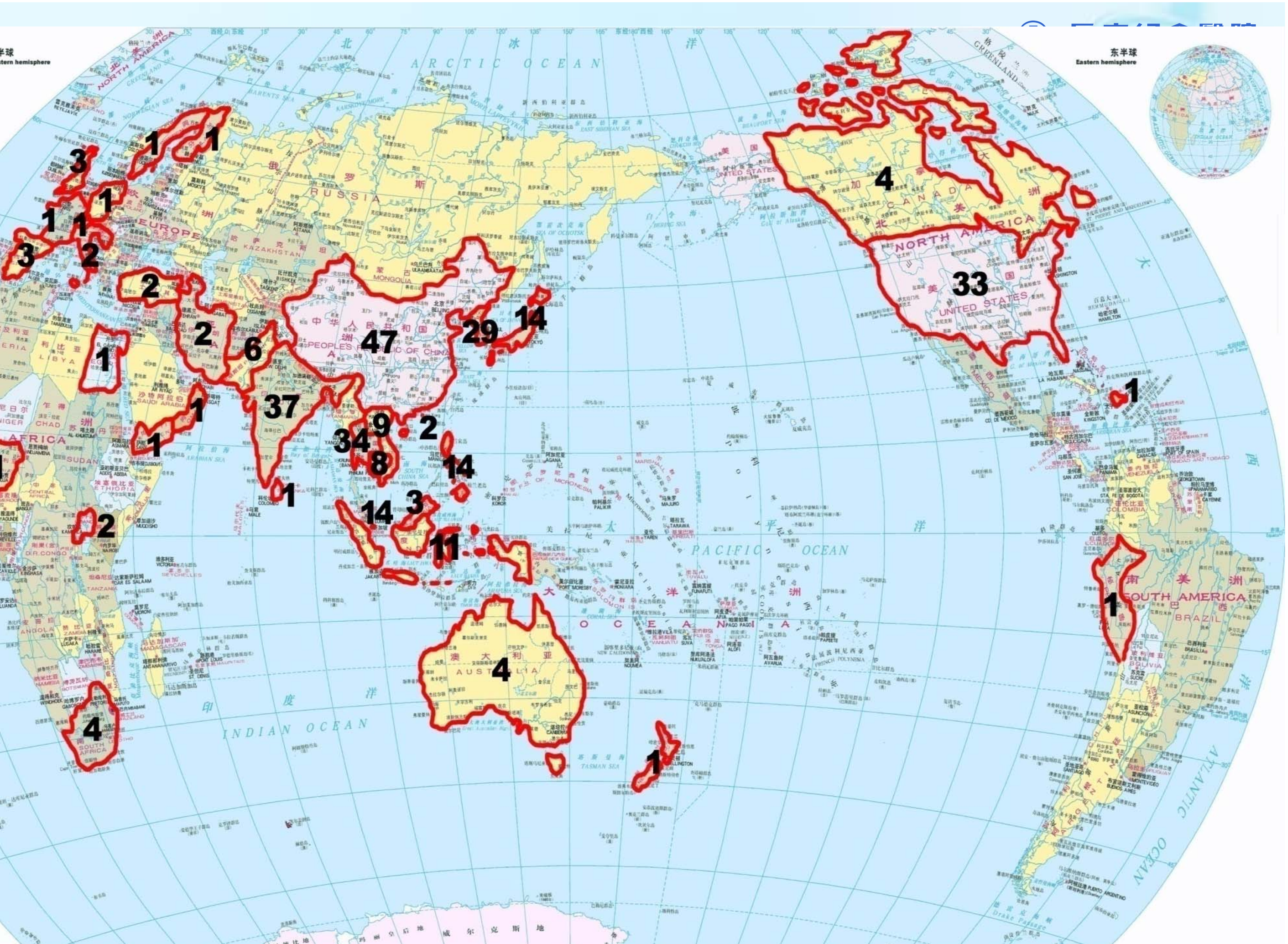
Chang Gung Forum – Cleft/OGS Workshop

Year	Number	Countries
2000. 07.	62	12
2002. 07.	125	15
2004. 09.	180	22
2006. 09.	248	34
2007. 10.	211	23
2008. 10.	279	29
2009. 10.	174	27
2010. 10.	269	31
2011. 10.	296	35

International Craniofacial Fellows/Observers

(510 trainees from 51 countries)




东半球
Eastern hemisphere
ARCTIC OCEAN
PACIFIC OCEAN
INDIAN OCEAN
EUROPE
RUSSIA
KAZAKHSTAN
MONGOLIA
AFRICA
LIBYA
CHAD
SUDAN
NORTH AMERICA
CANADA
UNITED STATES
SOUTH AMERICA
BRAZIL
AUSTRALIA
OCEANIA
ATLANTIC OCEAN
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1

Continuous improvement – Centers of Excellence

- **Right persons – start with study group, study reports and find out the possibilities**
- **Set up highest goal: try to get the best result (be the best in some part, some where!)**
- **Send the staff for the best training, invite masters or leading team to visit and get their advice**
- **Support from the administrators and from the system**

- **Disease centered**
- **Super-specialized**
- **Multidisciplinary**
- **Patient centered**

Continuous Improvement with Vertically-Integrated Healthcare - I

- **From acute to chronic to long-term care**
  - Six acute general hospitals
  - Taoyuan branch for subacute or chronic disease, i.e. Chinese medicine and rehabilitation
  - Nursing home in Taoyuan and Chiayi branches
- **From cradle to grave**
  - Kaohsiung postpartum nursing home, Linkou and Kaohsiung children's hospital, and geriatrics medicine
- **From western to Chinese medicine**
  - Chinese medicine in six branch hospitals, including Chinese internal medicine, pediatrics, obstetrics, acupuncture and orthopedics
- **From preventive medicine, health promotion to life care**
  - Health evaluation center
  - Health promotion center
  - Health and culture village

Vertical Integration- Continuous Medical Care

Diverse and Inclusive

Acute

- Taipei Branch (1976)
- Linkou Branch (1978)
- Keelung Branch (1985)
- Kaohsiung Branch (1985)
- Chiayi Branch (2001)
- Yunlin Branch (2009)

Chronic

Taoyuan Branch (2003)

Long-term Care

Nursing Home (2001)

Health Care Service

Health and Culture Village (2005)



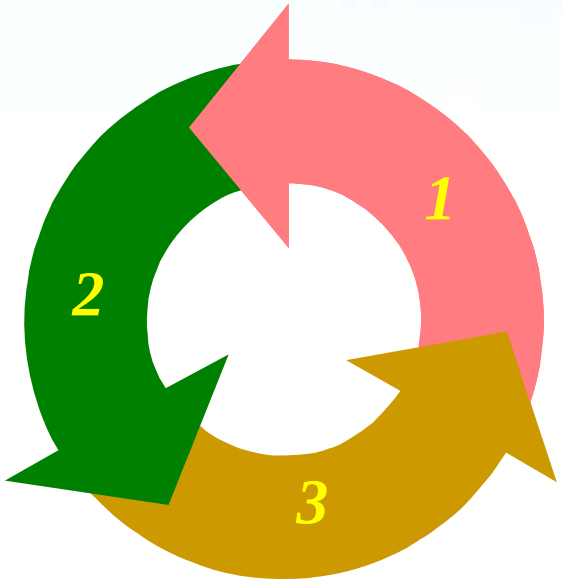


Establish a Complete Medical Care System

Chang Gung Nursing Home

Humanity, dignity, mutual helping, and family life in the care of the elderly

Chang Gung Culture (Silver) Village



- Aging in Place
- Healthy Aging
- Continuum of Care

Continuous Improvement with Vertically-Integrated Healthcare - II

- **Medical personnel education:** Provide education and advanced training for medical personnel from students to profession in medicine, medical technology and nursing
  - **CGU**- college of medicine, management, and engineering
    - Students with training in medicine, nursing, medical technology, and health care management
  - **CGUST**- college of nursing and human ecology
  - **CGMH** with two medical centers and two regional hospitals

A doctor can be not just skin deep

Wen-Hung Chung, M.D., Ph.D.

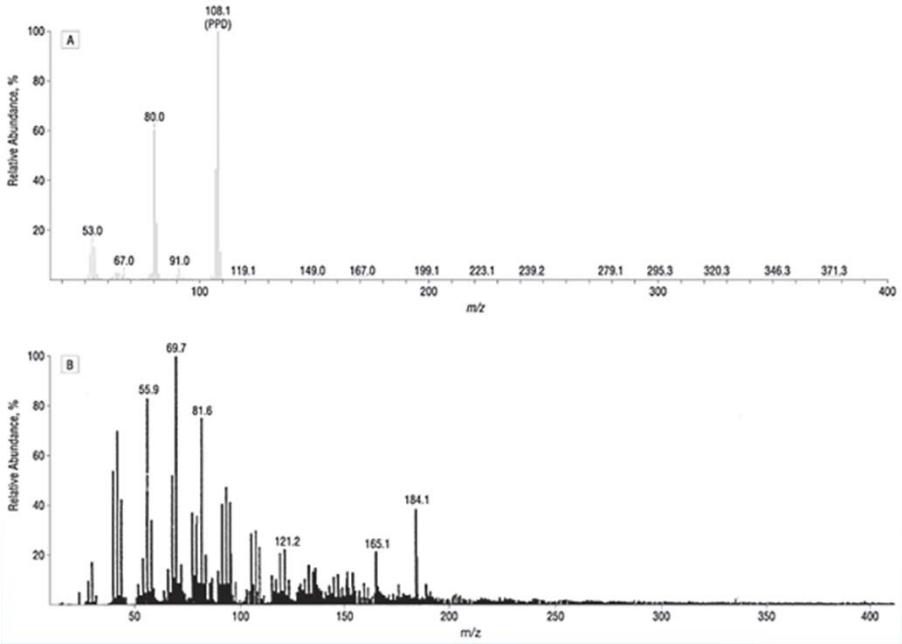
1. 1990-1997 School of Medicine, Chung Shan Medical University
2. 1999~2003: Resident doctor, Department of Dermatology, Chang Gung Memorial Hospital
2003 – 2010: Attending Physician/ Assistant Professor, Department of Dermatology, Chang Gung Memorial Hospital, Taiwan
2011-present: Associate Professor, Chang Gung Memorial Hospital& school of medicine, Chang Gung University, Taiwan

Dr. Chung decided to involve medical research. At beginning, he used simple experiment to analyzed unknown allergens for temporary tattoo and found an unexpected result showing PPD as a major allergen. The result was published in Arch Dermatol (IF: 3.5) that was the first one in the department of dermatology, CGMH that published paper in this high ranking dermatology journal

Clinicopathologic Features of Skin Reactions to Temporary Tattoos and Analysis of Possible Causes

Wen-Hung Chung, MD; Ya-Ching Chang, MD; Lih-Jen Yang, MD; Shuen-Iu Hung, PhD; Wen-Rou Wong, MD; Jing-Yi Lin, MD; Heng-Leong Chan, MD

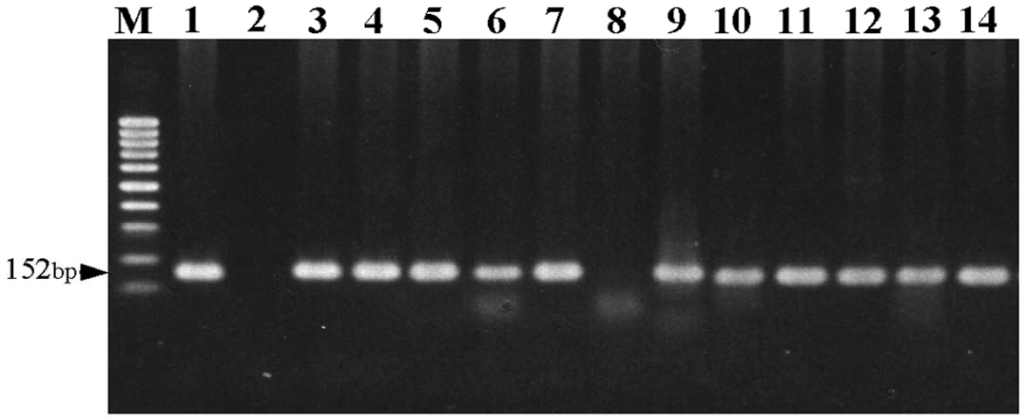
Arch Dermatol. 2002;138:88-91.



During the resident doctor period, Dr Chung took time to further learned some simple basic experiments, such as PCR and applied to dermatology for solving difficult diagnosis of skin deep fungal infection. He again broke the record of the department of dermatology, CGMH and published paper in basic research journal J Clin Microbiology(IF: 4.06).

Detection of Sporothrix schenckii in Clinical Samples by a Nested PCR Assay

J Clin Microbiology, 2003



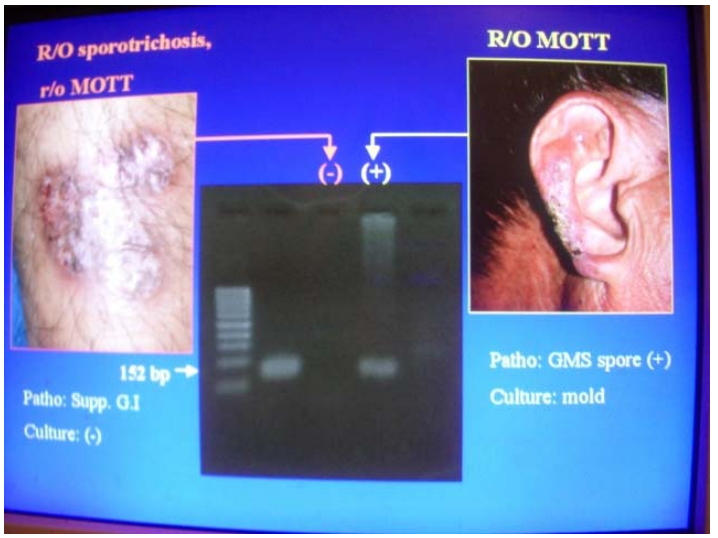
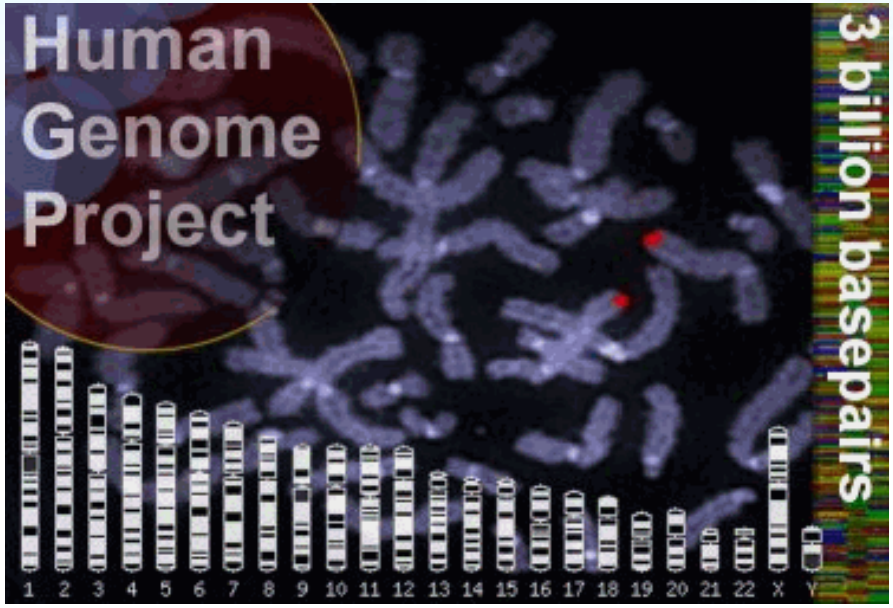


FIG. 3. Detection of *S. schenckii* in DNA extracts of 12 clinical samples by nested PCR assay. Lanes: M, molecular size marker (100 bp ladder [Promega]); 1, positive control of *S. schenckii*; 2, distilled water; 3-14, patient no. 1-12, respectively, in which lane 8 (patient no. 6) showed a negative result.

With the 2 experiences of successful clinical researches, Dr. Chung was more be fascinated to researches and hope to learn more advanced knowledge and technology to have a deeper research ability. He therefore went to Academia Sinica, the top research institute in Taiwan, to learn genomic research and began his PhD study over there.



中央研究院國家基因型鑑定中心

National Genotyping Center at Academia Sinica

he leading cause for compensation of Taiwan's drug relief foundation for with severe adverse drug reactions; there were many SJS patients admitted to (1-2 cases every week) at that time

ure 428, 486 (01 April 2004); doi:10.1038/428486a

edical genetics: A marker for Stevens – Johnson ndrome

EN-HUNG CHUNG*, SHUEN-IU HUNG†, HONG-SHANG HONG*, MO-SONG HSIH‡, LI-ENG YANG*, HSIN-CHUN HO*, JER-YUARN WU†§ & YUAN-TSONG CHEN†¶

partment of Dermatology, Chang Gung Memorial Hospital, Taipei, Taiwan
epartment of Neurology, Chang Gung Memorial Hospital, Taipei, Taiwan
stitute of Biomedical Sciences, Academia Sinica, Taipei, Taiwan
partment of Medical Research, China Medical University Hospital, Taichung, Taiwan
epartment of Pediatrics, Duke University Medical Center, Durham, North Carolina 27710, USA

Table 1 **Frequency of *HLA* alleles in patients with Stevens–Johnson syndrome**

HLA allele	*CBZ–SJS*	*CBZ-tolerant*	*Normal*
*B*1502*	44 (100%)	3 (3%)*	8 (8.6%)†
*Cw*0801*	41 (93.2%)	17 (16.8%)	13 (14%)
*A*1101*	36 (81.8%)	51 (50.5%)	53 (57%)
*DRB1*1202*	33 (75%)	12 (11.9%)	18 (19.4%)
*B*1502, Cw*0801*	41 (93.2%)	3 (3%)	7 (7.5%)
*B*1502, A*1101*	36 (81.8%)	2 (2%)	6 (6.5%)
*B*1502, DRB1*1202*	33 (75%)	1(1%)	5 (5.4%)
*B*1502, Cw*0801, A*1101, DRB1*1202*	29(66%)	0 (0%)	3 (3.2%)

Frequencies (by number and percentage) of individual or combined loci of the *B*1502* ancestral haplotype are shown in patients with carbamazepine-induced Stevens–Johnson syndrome (CBZ–SJS; $n = 44$), and in carbamazepine-tolerant ($n = 101$) and normal subjects ($n = 93$). For methods, see supplementary information.

*Odds ratio (CBZ–SJS/CBZ-tolerant): 2,504 (95% CI, 126–49,522); corrected *P* value $P_c = 3.13 \times 10^{-27}$.

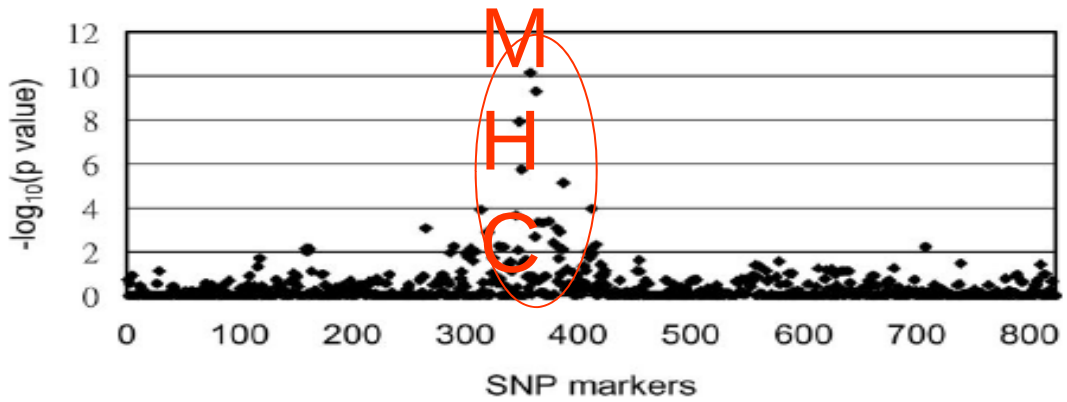
-B*5801 allele as a genetic marker for severe aneous adverse reactions caused by allopurinol

u Hung[a,b], Wen-Hung Chung[a,b,c,d], Lieh-Bang Liou[e], Chen-Chung Chu[f], Marie Lin[f], Hsien-Ping Huang[a], g Lin[a], Joung-Liang Lan[g], Li-Cheng Yang[c], Hong-Shang Hong[c], Ming-Jing Chen[c], Ping-Chin Lai[h], Mai-Szu Wu[h], Chu[i], Kuo-Hsien Wang[j], Chien-Hsiun Chen[a], Cathy S. J. Fann[a], Jer-Yuarn Wu[a,k], and Yuan-Tsong Chen[a,l,m]

| PNAS | March 15, 2005 | vol. 102 | no. 11

s in the MHC
on &

thine oxidase
ehyde oxidase
ne nucleoside
sphorylase
oxanthine
sphoribosyl
sferase



Screening of candidate SNPs for association with allopurinol-induced SCAR. On the *x* axis, 823 SNPs are ordered by their chromosome positions; 197 SNPs MHC region are those numbered from 260 to 456. On the *y* axis, the $-\log_{10} P$ values were calculated by comparison of the genotype frequencies between llopurinol–SCAR patients and tolerant group.

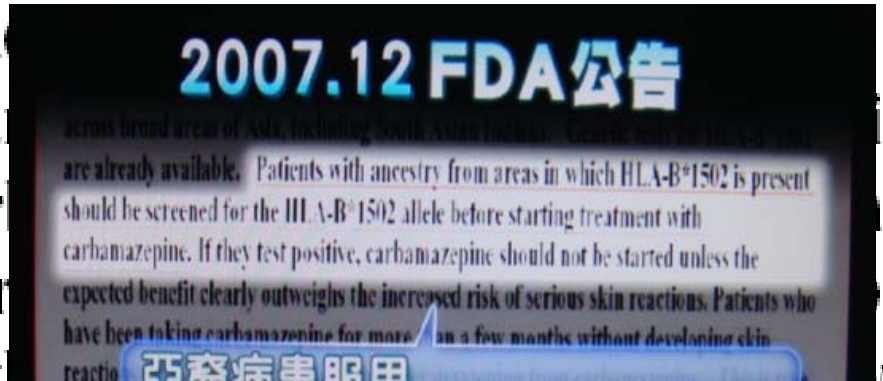
e 3. Frequencies of individual or combined loci of HLA-B*5801 extended haplotype in patients with allopurinol-induced SCAR, urinol tolerant control, and general population control

otype	Allopurinol-SCAR (*n* = 51)	Tolerant control (*n* = 135)	Odds ratio	Pc value*	General population control (*n* = 93)	Odds ratio	Pc value*
01	51 (100)	20 (15)	580.3	4.7×10^{-24}	19 (20)	393.5	8.1×10^{-18}
0302	48 (94)	19 (14)	97.7	1.4×10^{-19}	19 (20)	62.3	2.5×10^{-13}
03	34 (67)	24 (18)	9.3	2.2×10^{-4}	20 (22)	7.3	4.7×10^{-2}
*0301	33 (65)	17 (13)	12.7	2.8×10^{-6}	14 (15)	10.3	8.5×10^{-4}
01, Cw*0302	48 (94)	19 (14)	97.7	1.4×10^{-19}	19 (20)	62.3	2.6×10^{-13}

U.S. Food and Drug Administration

Department of Health and Human Services

ALERT [12/12/2007]: Dangerous or even fatal skin reactions (Stevens Johnson ome and toxic epidermal necrolysis), that can be caused by carbamazepine therapy, nificantly more common in patients with a particular human leukocyte antigen allele, HLA-B*1502. This allele occurs almost exclusively in patients with ancestry broad areas of Asia, including South Asian Indians. Genetic tests for HLA-B*1502 eady available. Patients with ancestry from areas in which HLA-B*1502 is present be screened for the HLA-B*1502 allele before starting treatment with nazepine. If th started unless the ed benefit clea in reactions. Patients who een taking car out developing skin ns are at low r amazepine. This is true ients of any et e for HLA-B*1502. This

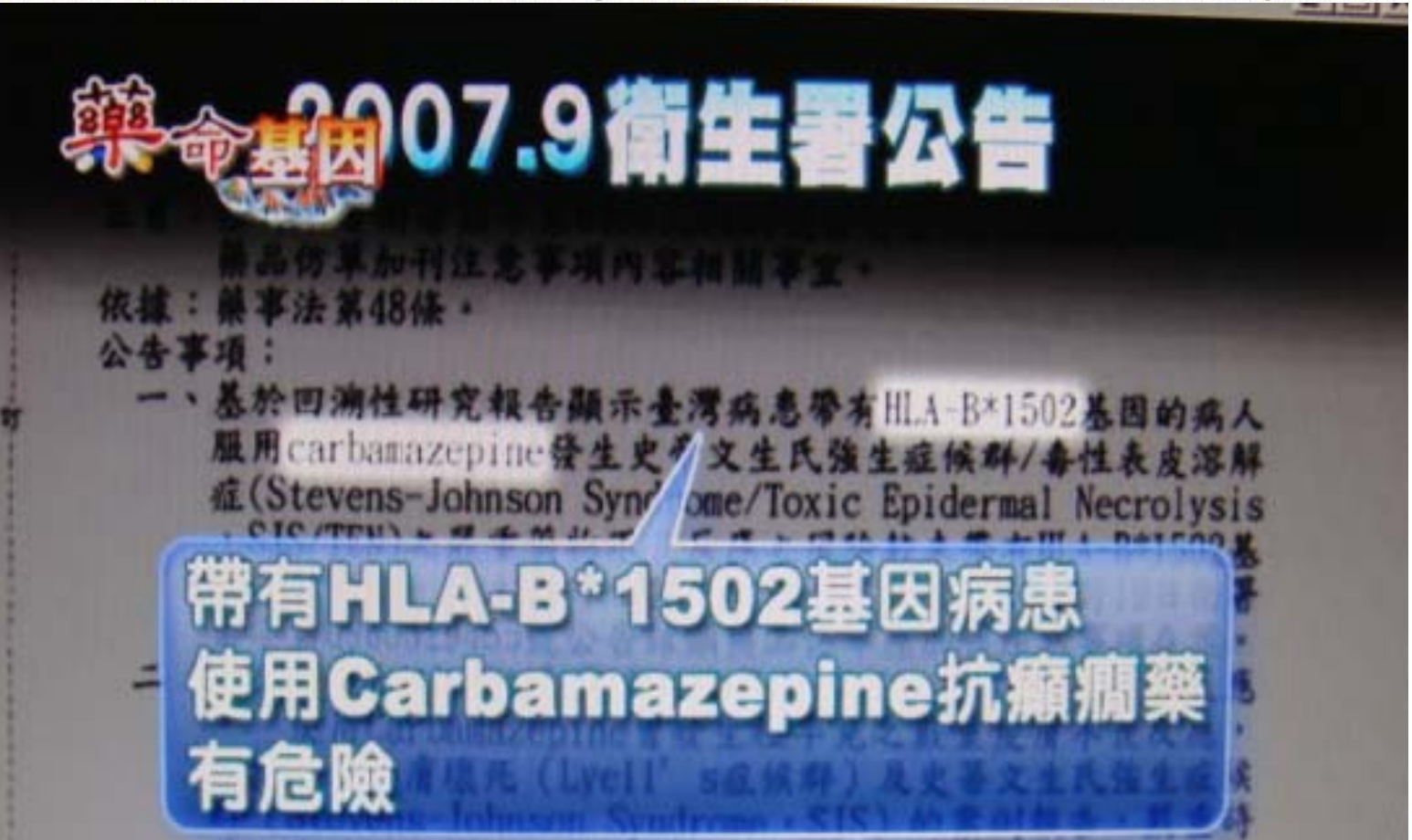


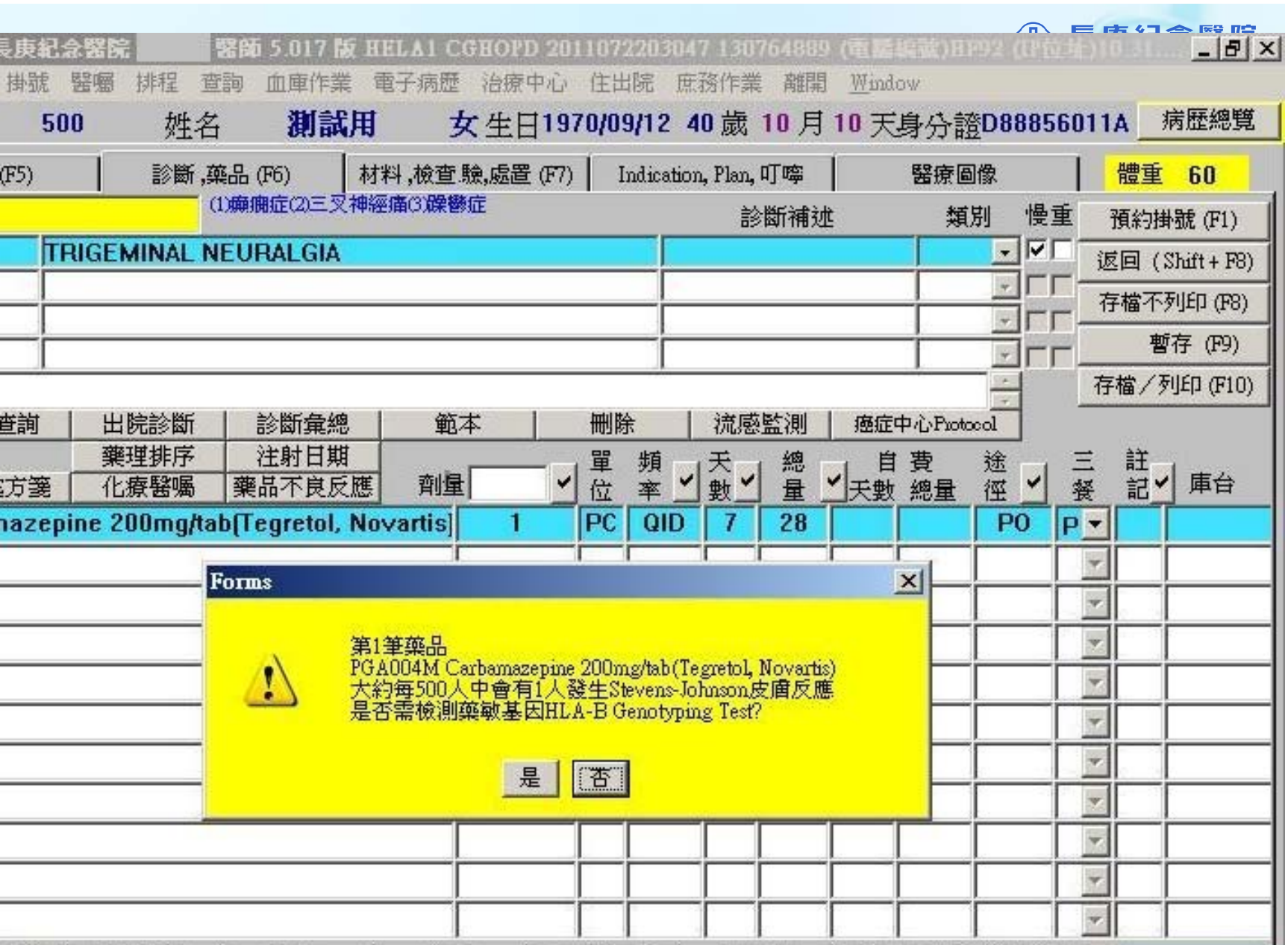
發表日期：2007/12/14 14:46:59

回資訊列表

生署再次提醒醫師爲病患處方抗癲癇藥物Carbamazepine時應謹慎監視嚴重皮膚傷害之不良反應並注意患者是否爲人類白血球抗原HLA-B＊1502基因型陽性者

國FDA於2007年12月12日發布藥品安全資訊，癲癇治療藥物carbamazepine可能導致史蒂文生氏強生症候群/中毒性表皮溶解症（Stevens-Johnson Syndrome/ Toxic




長庚紀念醫院
醫師 5.017 版 HELA1 CGHOPD 20110722030471307648891
掛號 醫囑 排程 查詢 血庫作業 電子病歷 治療中心 住出院 庶務作業 離開 Window
500 姓名 測試用 女 生日1970/09/12 40 歲 10 月 10 天身分證D88856011A
病歷總覽
診斷,藥品 (F6)
材料,檢查.驗,處置 (F7)
Indication, Plan, 叮嚀
醫療圖像
體重 60
(1)癲癇症(2)三叉神經痛(3)躁鬱症
診斷補述
類別
慢重
TRIGEMINAL NEURALGIA
預約掛號 (F1)
返回 (Shift + F8)
存檔不列印 (F8)
暫存 (F9)
存檔／列印 (F10)
出院診斷
診斷彙總
範本
刪除
流感監測
癌症中心Protocol
藥理排序
注射日期
化療醫囑
藥品不良反應
劑量
單位
頻率
天數
總量
自費天數
總量
途徑
三餐
註記
庫台
nazepine 200mg/tab[Tegretol, Novartis]
1
PC
QID
7
28
PO
P
Forms
第1筆藥品
PGA004M Carbamazepine 200mg/tab(Tegretol, Novartis)
大約每500人中會有1人發生Stevens-Johnson皮膚反應
是否需檢測藥敏基因HLA-B Genotyping Test?
是
否

5 years, Dr. Chung found another breakthrough in SJS-therapeutic target:
sin and published the result on Nature Medicine in 2008.

re
edicine
Login
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ure Medicine
ished online: 23 November 2008 | doi:10.1038/nm.1884

anulysin is a key mediator for disseminated keratinocyte ath in Stevens-Johnson syndrome and toxic epidermal crolysis

n-Hung Chung[1,2,3,9], Shuen-Iu Hung[2,4,9], Jui-Yung Yang[5], Shih-Chi Su[2], en-Ping Huang[2], Chun-Yu Wei[2], See-Wen Chin[4], Chien-Chun Chiou[1], g-Chao Chu[6], Hsin-Chun Ho[1], Chih-Hsun Yang[1], Chi-Fang Lu[7], Jer-Yuarn [2], You-Di Liao[2] & Yuan-Tsong Chen[2,8]

Drug Hypersensibility Research Center

醫師　許仲瑤醫師　楊志勛主任

醫師　張雅菁醫師　黃毓惠醫師

醫師　林政緯醫師　盧金坊醫師

醫師

科 邱正堂醫師　許朝偉醫師

科 加護病房 黃崇旗醫師　高國晉醫師

感染醫學科

吳丁樹醫師

整型外科 灼傷中心

莊秀樹主任　楊瑞永主任

病理科 郭承統醫師

神經科 吳

藥劑部 謝

Dermatology, Chang Gung Memorial Hospital

28 Attending Physicians, 16 Residents,

Trained more than 140 board certified Dermatologist

Hypersenstivity
ch Center (2012)

Psoriasis Research Center (2013)

Hair Transplant Center (2009)

Cosmetic Center (2006)

Any Challenges or Crisis?

xpansion and new centers in other medical
ospital groups

rivate clinics or small hospitals provide better
ccessibility and better services esp. dental,
ENT, dermatology, cosmetic surgery, physical
herapy…

hey provide better pay to the staff!

s a result:

low down the growth of service number,

oss of staff members

ack of new technology development and research publications

Any Challenges or Crisis? – Yes!

pansion and new centers in other medical groups

vate clinics or small hospitals provide better accessibility and better services esp.
ntal, EENT, dermatology, cosmetic surgery, physical therapy…

ey provide better pay to the staff!

a result:

. slow down the growth of service number,

. loss of staff members

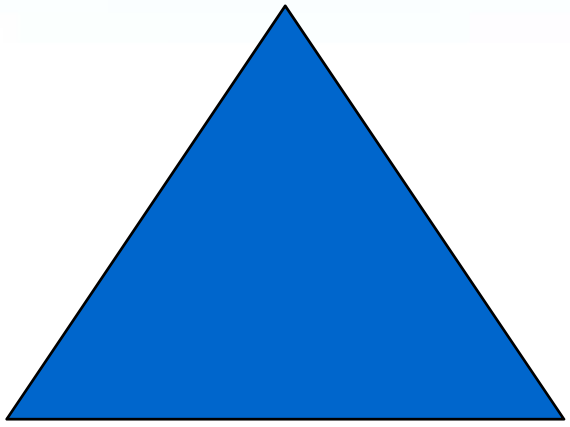
. lack of new technology development and
earch publications

Crisis of CGMH Dental Department in 1990s

High specialization: *endo, peri, prostho, ortho….*
One tooth needs more than 3 specialists to treat
Long waiting time and long treatment time for one tooth problem in each treatment section
Every staff doctor was counted as a cost-unit, responsible to his/her own salary – low income!
Cut down cost (including investment of high tech) to generate short-term profit – low tech!
Private dental practice attracting hospital staffs

TRIAD OF HEALTH CARE POLICY

Access to Care



ost Effectiveness **Quality of Care**

Quality of Care remained as the only choice to attract dentists joining hospital service.

Total patient care
“do everything by one doctor”

(private practice)

Patient-centered care
“do everything in one group”
“integrated specialists care”

(hospital service)

Re-engineering Dental Department

GOAL:

Integrated dental specialists together for better dental care through team approach

Team Building

Trust

- Trust is the basis by which leaders/managers facilitate the activities and the progress of the team
- The group members will also decide early who they can trust and who they can't
- Trust is influenced more by actions than words

Team Building

- Establish a clear purpose
- Listen carefully to the Voice of members
- Be Compassionate
- Tell the Truth
- Be Flexible
- Commit to Resolution

Team Success

The success of the team depends on its members and its leadership!

Often, teams have a facilitator who assists the leader in team building and helps the team come to consensus.

Clinical Teams & Process Improvement

Team Focus

- Identify customer needs – invest new chairs, PACS, cone beam CT, …..
- Help to understand an existing process
- Standardization of processes
- Streamline processes
- Reduce variation
- Measure process for quality, cost and service

utcomes of Team Work Developing in ental Department (2000-2012)

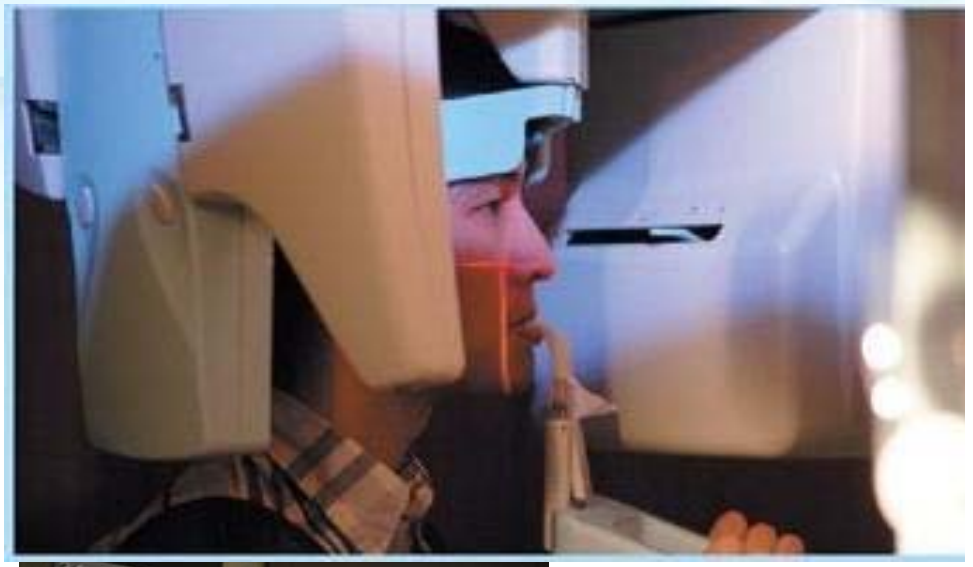
- nnual new patients rate: 10-15 %
- isiting staffs increase from 35 to 92
- ental chairs increase from 65 to 220
- nnual profit margin of dental service :15-20%
- ental implants increase from 50/yr to 3,360/yr
- rthognathic surgery increase from 50/yr to 700/yr
- eams established: **dental implant, handicapped care, leep center, cleft care, orthognathic surgery, geriatric are, oral cancer, orofacial pain & trauma, etc.**


顱顏齒顎矯正科報到櫃檯
DEPARTMENT OF CRANIOFACIAL ORTHODONTICS


衛教專欄
顱顏齒顎矯正科


5


植牙中心
一般牙科
牙髓病科
義齒補綴科




23 簡君倩
22 李宛蓉
21 陳怡芬
19 陳城章
18 郭松泊
17 彭榮晴
16 柳昭蔚
14 黃意方
12 魏敏佳
11 鄭鈞仁
10 黎肇國
9 徐光蔚
8 蔡宗伯
7 沈裕福
6 謝祥集

he First Choice of Dental Graduates

he Best OGS Center

he Best dental center for handicapped

Continuous Improvement --

Research

長庚紀念醫院
CHANG GUNG MEMORIAL HOSPITAL

Research Projects and Budget in Chang Gung Group

長庚紀念醫院 CHANG GUNG MEMORIAL HOSPITAL

Research Budget in Chang Gung Group from 2009-2012

Unit: K, USD

	2009		2010		2011		2012	
	32,978.2	39.4%	37,897.6	44.4%	38,072.3	43.8%	37,638.3	37.1%
	39,176.1	46.8%	34,339.2	40.2%	35,907.9	41.3%	50,336.3	49.6%
ve s	8,298.0	9.9%	9,078.1	10.6%	8,505.3	9.8%	8,736.3	8.6%
ch ves	3,263.3	3.9%	4,030.0	4.7%	4,496.7	5.2%	4,840.0	4.8%
	83,715.6		**85,344.9**		**86,982.2**		**101,550.9**	

長庚紀念醫院 CHANG GUNG MEMORIAL HOSPITAL

Research Incentives in Chang Gung Group from 2009-2012

Unit, K, USD

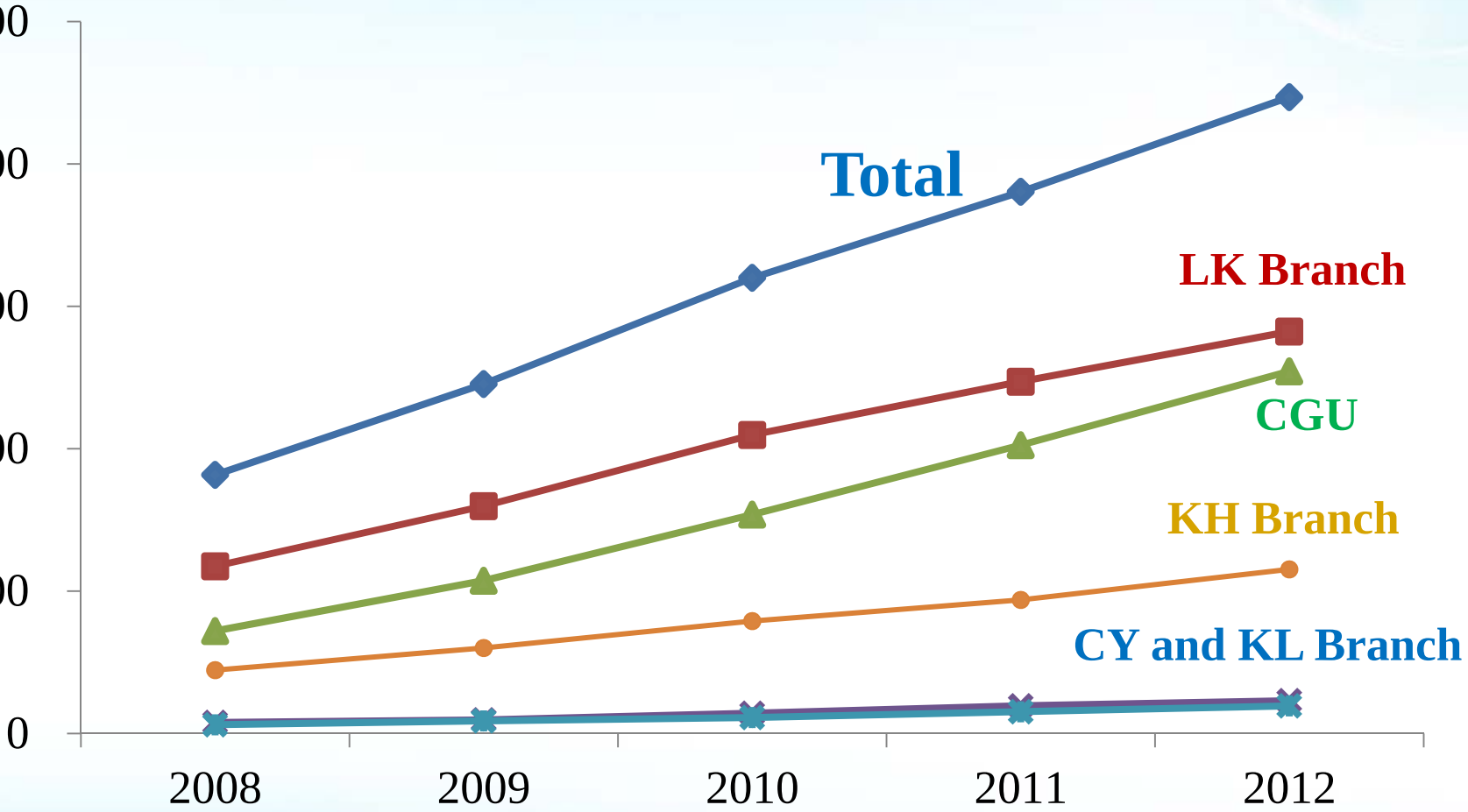
	2009		2010		2011		2012	
	No.	**Fees**	**No.**	**Fees**	**No.**	**Fees**	**No.**	**Fees**
anch	7	67.4	10	100	11	160	11	153.3
anch	70	1017	96	1403	95	1443	108	1667
anch	5	63.3	8	80	9	103.3	5	60
anch	42	613.3	39	600	43	686.7	40	646.7
otal	124	1767	153	2183	158	2393	164	2527
U	107	1433.3	112	1736.7	125	2013.3	135	2260
TU	5	63.333	8	110	5	90	3	53.3
otal	112	1497	120	1847	130	2103	138	2313

Research Staff in 2012

	Keelong	Linkou	Chiayi	Kaohsiung	Total
ian chers	78	302	78	177	**635**
ian scientists	3	22	2	4	**31**
al (A)	81	324	80	181	**666**
ysician (B)	186	874	203	475	**1738**
% (A/B)	43.50%	37.10%	39.40%	38.10%	**39.50%**
rch Assistants, egree	1	41	4	20	**66**
rch Assistants, r degree	97	631	78	294	**1100**
al	98	672	82	314	**1166**

長庚紀念醫院
CHANG GUNG MEMORIAL HOSPITAL

Citation of SCI Manuscripts
Chang Gung Group, 2008-2012



Average Impact Factor, 2008-2010
Chang Gung Foundation

Core Laboratories

	Laboratory	LK	KH	KL	CY
1-2003	Genomic Medicine Research Core Laboratory	V	V		
	Microscopy Core Laboratory	V			
3-2004	Clinical Proteomics Core Laboratory	V	V		
	DNA Sequencing Core Laboratory	V			
5	Resource Center for Clinical Research	V			
7-2009	Tissue Bank	V	V	V	V
7-2009	Animal Center	V	V	V	V
0	Transplantation and Regeneration		V		
2-2003	Phenotypic Identification		V		

Research Centers

Year	Center	Location	PI, Prof.
2004	**Neuroscience Research Center**	Linkou	Lu SC
2004	**Kidney Research Center**	Linkou	Yang CW
2004	**Molecular Image Center**	Linkou	Yen TC
2005	**Molecular Infectious Diseases Research Center**	Linkou	Chiu CH
2006	**Gynecologic Cancer Research Center**	Linkou	Lai CH
2007	**Liver Research Center**	Linkou	Yeh CT
2009	**Center for Translational Research in Biomedical Sciences**	Kaohsiung	Chan HH
2010	**Craniofacial Research Center**	Linkou	Huang CS
2011	**Center for Vascularized Composited Allotransplantation**	Linkou	Wei FC
2012	**Community Healthcare Center**	Keelong	Chien RN

ntinuous improvement or fading away!

ardiovascular surgery v.s. Cardiology

eptic ulcer surgery v.s. Helicobacter pylori

inimal invasive surgery: endoscope surgery, robotic rgery

長庚紀念醫院
CHANG GUNG MEMORIAL HOSPITAL

Continuous Improvement --

Chang Gung Proton Center

Cancer incidence and site in Taiwan

New cancer cases in Taiwan at year 2010			
Gender	Male	Female	Total
Case #	50, 890	39,757	90, 649

Cancer type	Case #	Cancer type	Case #
on-rectum	14,040	6. Prostate	4,392
er and biliary	11,023	7. Stomach	3,854
ng	10,615	8. Skin	2,978
ast	9,655	9. Uterine body	1,737
ad and Neck (buccal , nd hypo- pharynx)*	6,560	10. Cervix of uterus	1,680

C is not included (n = 1500/year)

Conservative estimation for case number benefited from proton therapy (PT) in Taiwan*

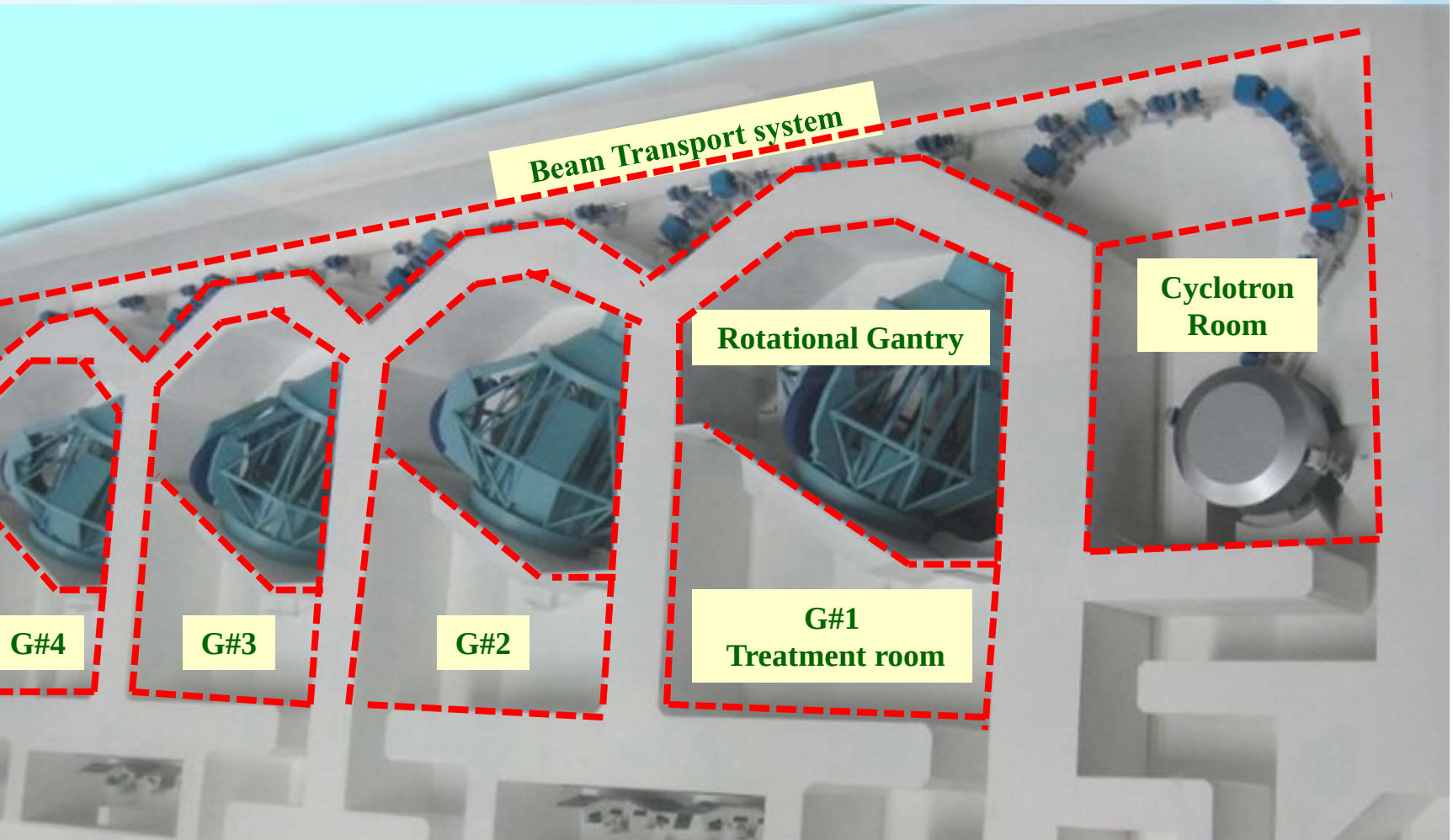
Cancer	Case #	% for PT	Case # for PT
HCC	11023	10%	1100
Lung	10615	5%	530
H&N	6560	20%	1300
NPC	1500	30%	450
Prostate	4392	20%	860
Pancreatic ca	1800	30%	540
thers (breast…)	54759	5%	2740
	90649**		7520**

Based on 2010 cancer incidence in Taiwan.

CGMH proton project

Events	Time
ission by founder Mr. Wang	2007-07-25
ract with Sumitomo	2008-06-28
-breaking	2011-01-11
installation	2012-06-28
beam out	2013-05-25
mission for the first treatment room	2013-12-15
cal trial for 6 patients	2014-03-15
to serve patients	2014-09-15

3D view of proton facility



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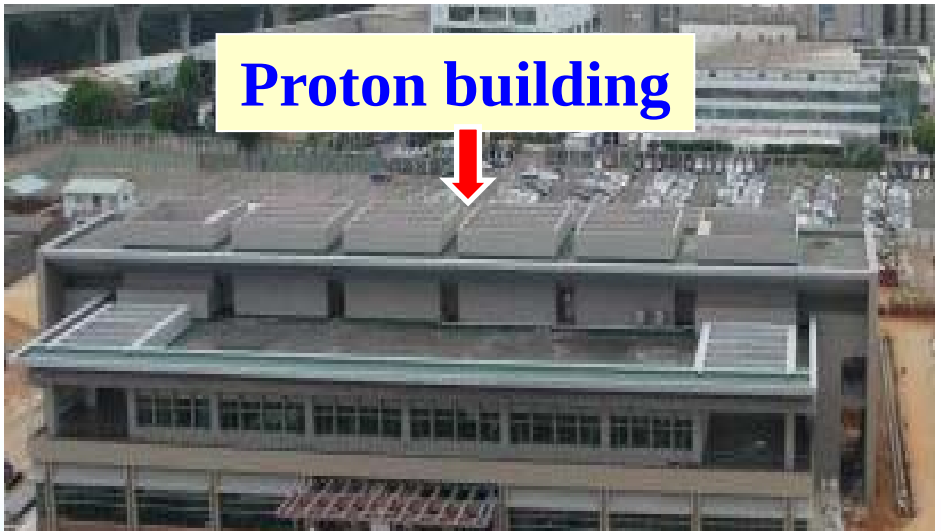
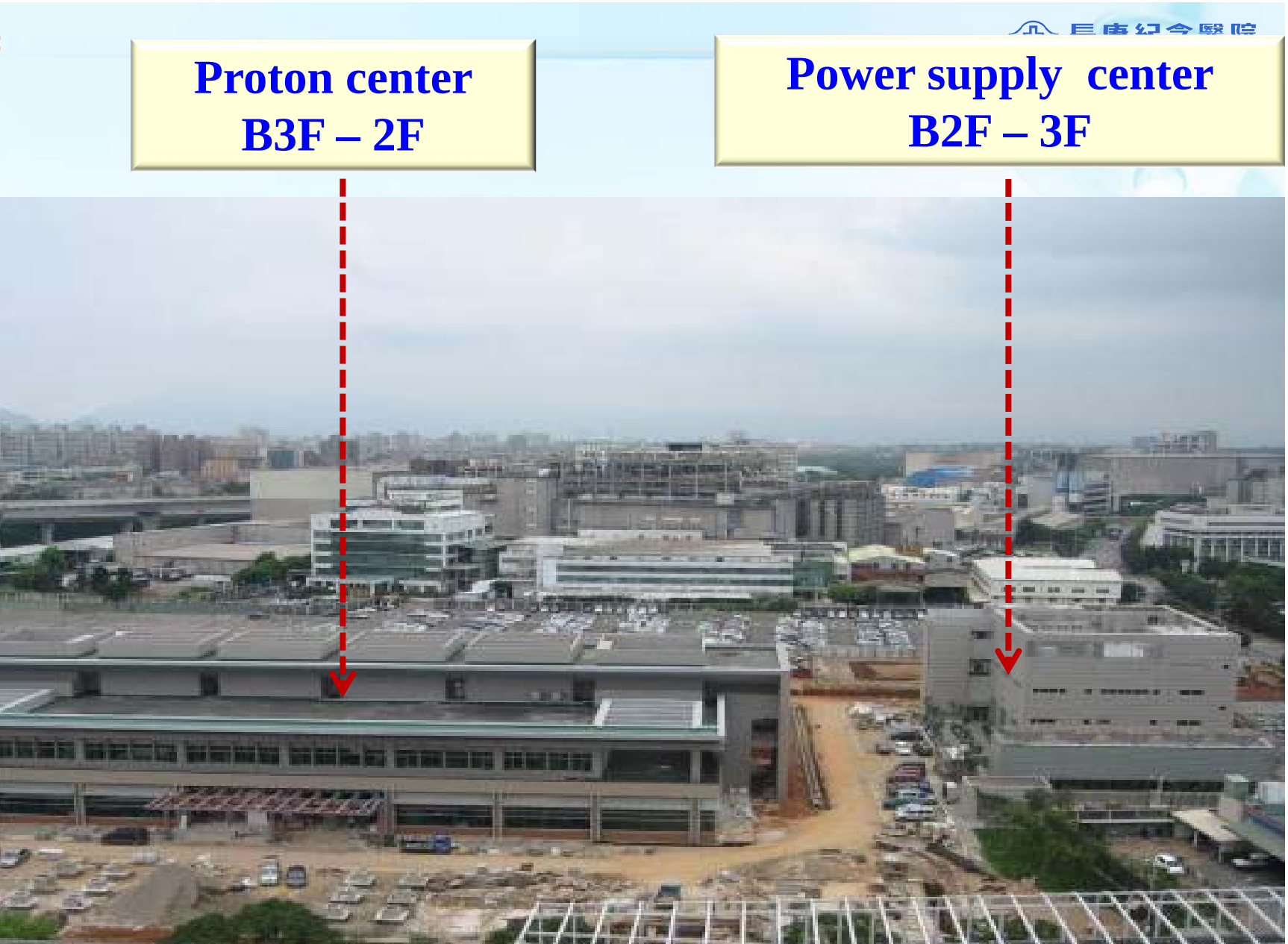
Gantry #1

2013-06-14

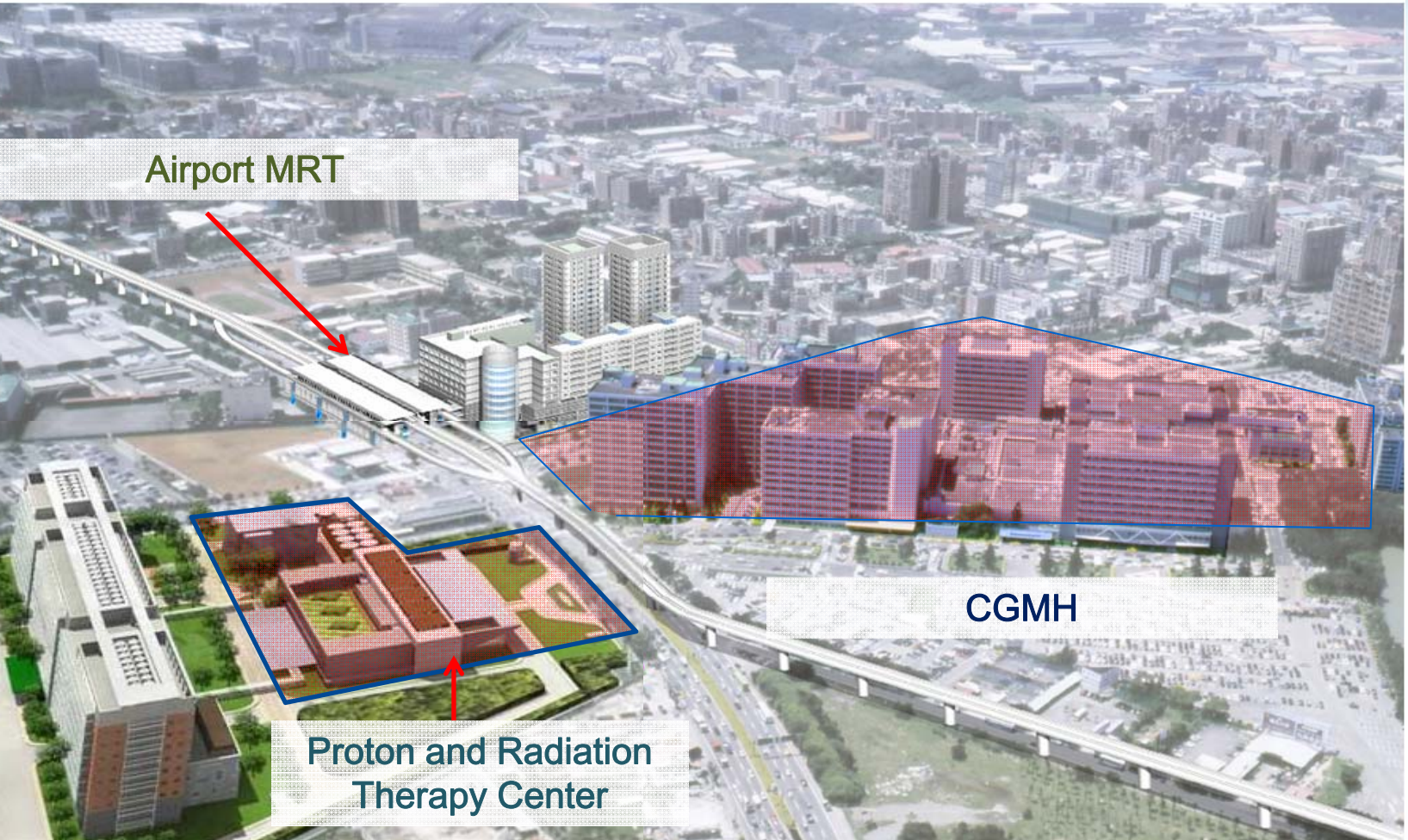
Cyclotron

Proton building




Proton center
B3F – 2F
Power supply center
B2F – 3F

Landscape



Continuous Improvement and Current Mission

World-class healthcare system

- **Cutting edge clinical research and innovative service**
- **Be state-of-the-art world-class medical center**
  - Patient-centered, multidisciplinary centers of excellence
  - Actively participate in transnational teaching cooperation and benchmarking learning

Thank You