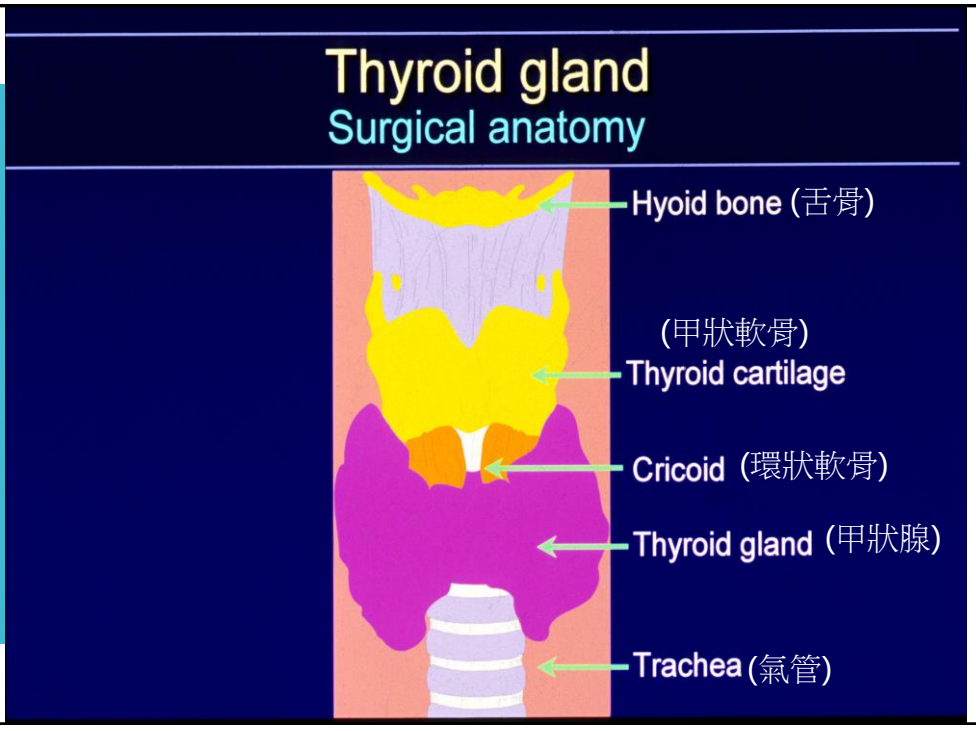
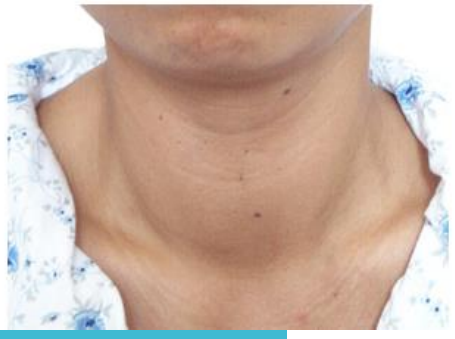
甲狀腺結節 與 甲狀腺癌

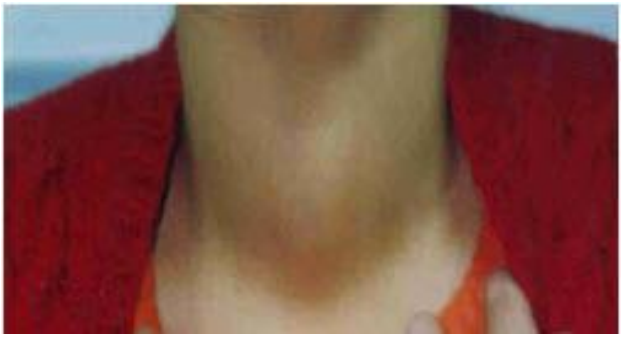
香港大學李嘉誠醫學院
外科學系臨床副教授
梁熊顯醫生

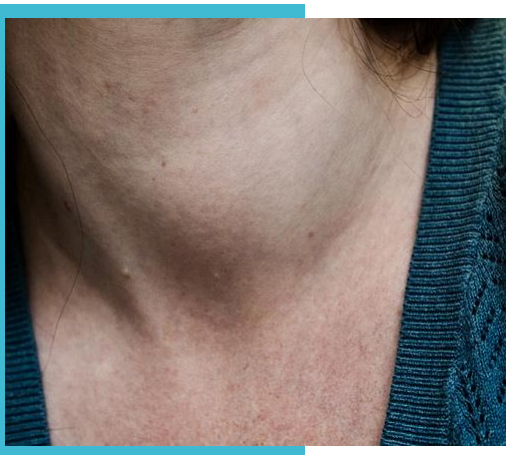


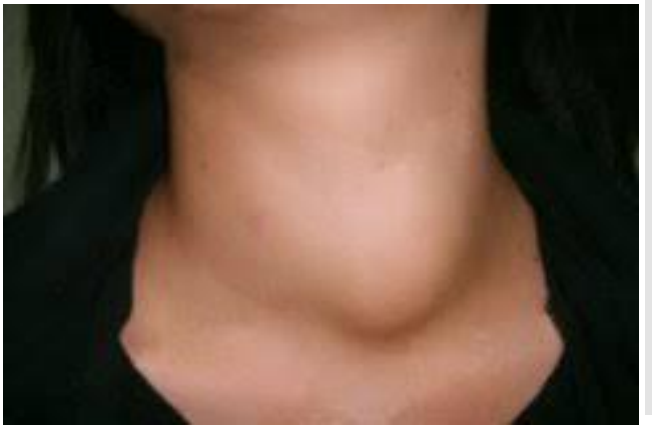
甲狀腺結節

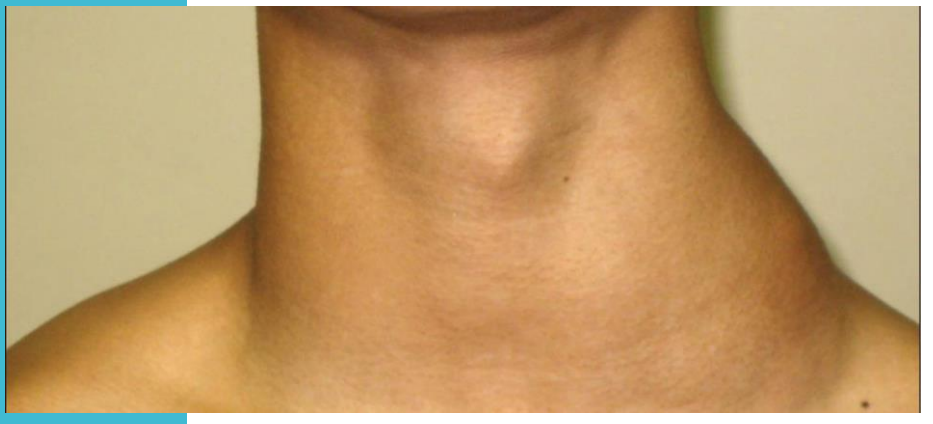
- 現今很普遍
- 每兩個人到醫院檢查，其中一人就會被診斷有甲狀腺結節
- 90%不會增大；10%會隨時間慢慢變大(數年至數十年)
- 結節約3-4厘米，建議接受手術



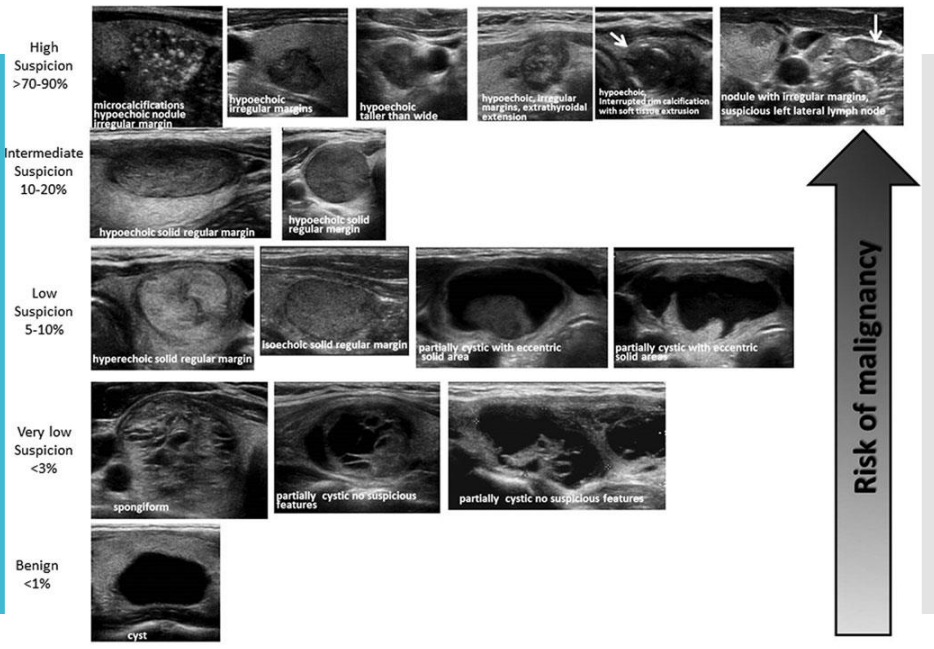








超聲波圖像：甲狀腺結節的不同樣貌

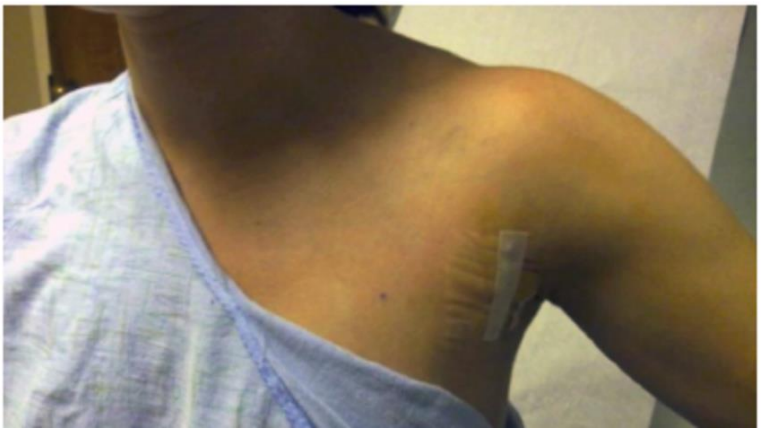


手術治療(一)

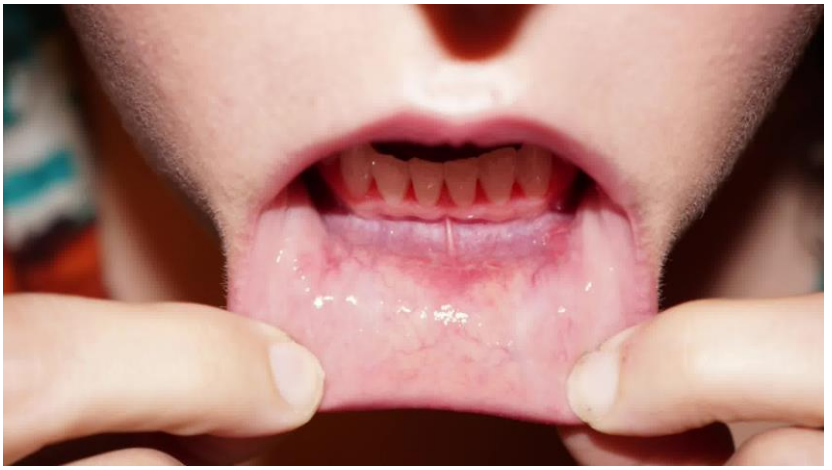
- **傳統開刀手術切除**
  - 沿頸部開刀約3-4厘米，切除甲狀腺
  - 腋下開刀，以內窺鏡沿腋下創口延伸至甲狀腺位置進行切除手術
  - 口腔唇底開刀，以內窺鏡經口腔下巴至甲狀腺位置進行切除手術

傳統沿頸部甲狀腺切除術

經腋下甲狀腺切除術



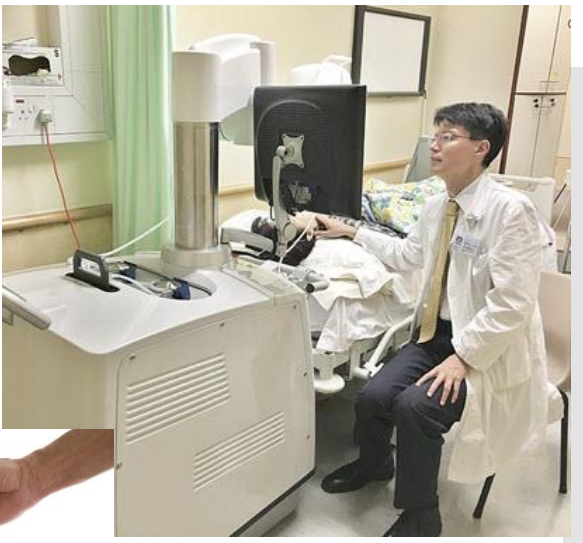
經口腔甲狀腺切除術

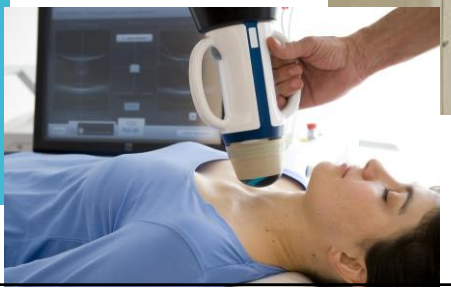


手術治療(二)

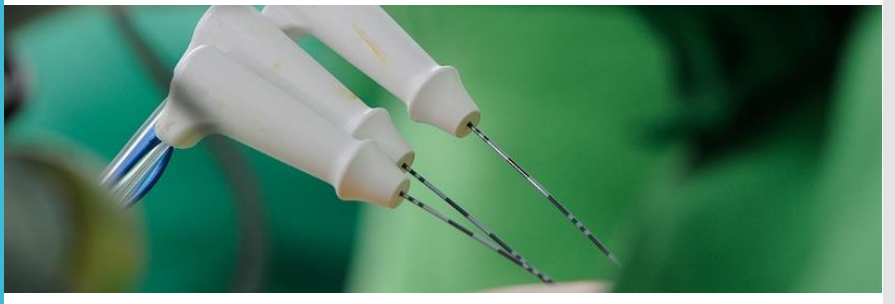
- 無創手術縮減結節
  - **高強度聚焦超聲波**
    - 又名超聲刀/HIFU
    - 以高聚焦超聲波形成高熱，集中燒毀甲狀腺結節局部位置，達到縮小的最終效果
  - **射頻消融**
    - 以電極針插進目標結節
    - 經電極針發放無線電射頻電波達到高溫消融目標結節，最終可令結節縮小

高強度聚焦超聲波
(超聲刀/HIFU)





射頻消融



甲狀腺癌

- 是最常見的內分泌腫瘤
- 年輕化趨勢，最年輕的患者有六歲的小孩
- 惡性腫瘤生長速度快，2-3個月就可能會生長至2-3厘米
- 大部分必須手術切除，小部分可以積極監控替代手術

甲狀腺癌階段(第一期至第四期)

Table 2. TNM Classification System for Differentiated Thyroid Carcinoma

腫瘤

Definition	
T1	Tumor diameter 2 cm or smaller
T2	Primary tumor diameter > 2 to 4 cm
T3	Primary tumor diameter > 4 cm limited to the thyroid or with minimal extrathyroidal extension
$T4_a$	Tumor of any size extending beyond the thyroid capsule to invade subcutaneous soft tissues, larynx, trachea, esophagus, or recurrent laryngeal nerve
$T4_b$	Tumor invades prevertebral fascia or encases carotid artery or mediastinal vessels
TX	Primary tumor size unknown, but without extrathyroidal invasion

淋巴核

NO	No metastatic nodes
$N1_a$	Metastases to level VI (pretracheal, paratracheal, and prelaryngeal/Delphian lymph nodes)
$N1_b$	Metastasis to unilateral, bilateral, contralateral cervical or superior mediastinal mode metastases
NX	Nodes not assessed at surgery

擴散

MO	No distant metastases
M1	Distant metastases
MX	Distant metastases not assessed

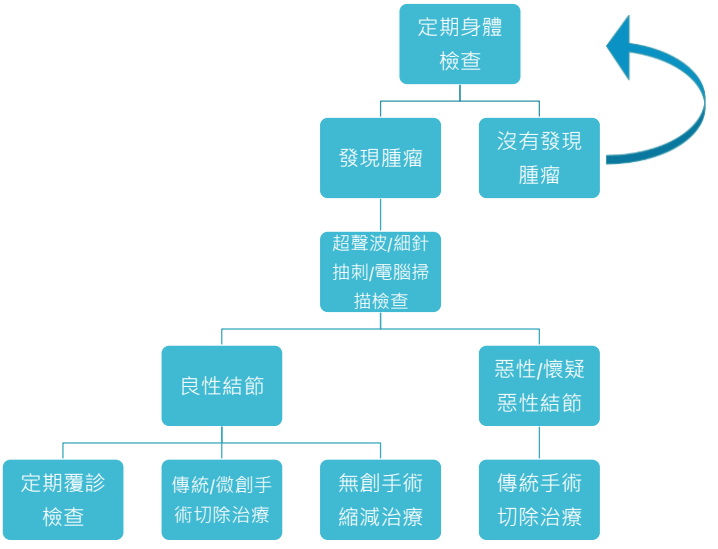
階段

Stages	*Patient age < 45 years*	*Patient aged 45 years or older*
Stage I	Any T, any N, MO	T1, NO, MO
Stage II	Any T, any N, M1	T2, NO, MO
Stage III		T3, NO, MO T1, $N1_a$, MO T2, $N1_a$, MO T3, $N1_a$, MO
Stage IVA		$T4_a$, NO, MO $T4_a$, $N1_a$, MO T1, $N1_b$, MO T2, $N1_b$, MO T3, $N1_b$, MO $T4_a$, $N1_b$, MO
Stage IVB		$T4_b$, Any N, MO
Stage IVC		Any T, Any N, M1

病情判斷

- 由專業醫生去評估
- 使用超聲波檢查結節大小及位置，亦可初步判斷屬良性或懷疑惡性
- 多輔以細針抽刺技術作進一步檢查，以細針於目標結節抽取細胞化驗，查看良性或惡性腫瘤，準確度大於95%
- 若無法明確判斷，皆會建議手術切除，視乎情況取出半邊或整個甲狀腺化驗

甲狀腺腫瘤管理方法



End

完

戰勝鼻咽癌

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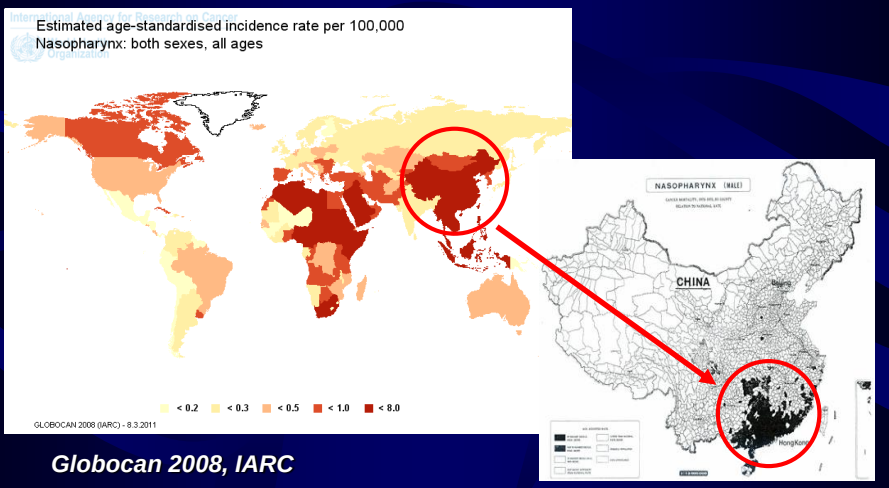
香港大學 李嘉誠醫學院
臨床腫瘤科 臨床助理教授

大綱

- 鼻咽癌的預防和風險因素
- 如何及早發現鼻咽癌
- 鼻咽癌的診斷, 疾病分期和預後因素
- 鼻咽癌的治療

流行病學：鼻咽癌的地域分佈

Skewed geographic & ethnic distribution



Globocan 2008, IARC

鼻咽癌的預防和風險因素

流行病學及成因

Carcinogen is ingested rather than inhaled

? Volatile nitrosamine in salted fish
(鹹魚中的揮發性亞硝胺)

Ho, del Regato Lecture, IJROBP 1978

鼻咽癌的風險因素

Association	Factor
Consistent, Strong	• Epstein-Barr Virus (人類疱疹毒第四型) • Family history of NPC
Consistent, Moderate-Strong	• Salt-preserved fish • Genetic factor (HLA genotypes)
Fairly, Moderate	• Other preserved foods • Lack of fresh fruits/vegetables
Fairly, Weak-Moderate	• Tobacco smoke

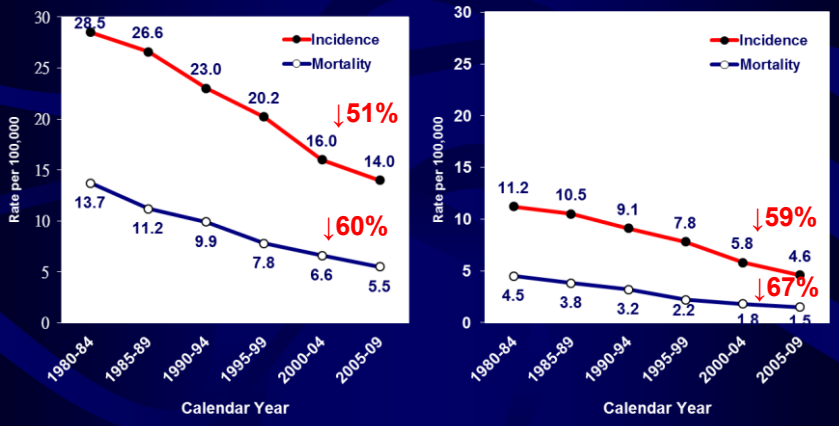
公眾教育

Hong Kong Anti-Cancer Society 香港防癌會

香港鼻咽癌的病發率持續下降

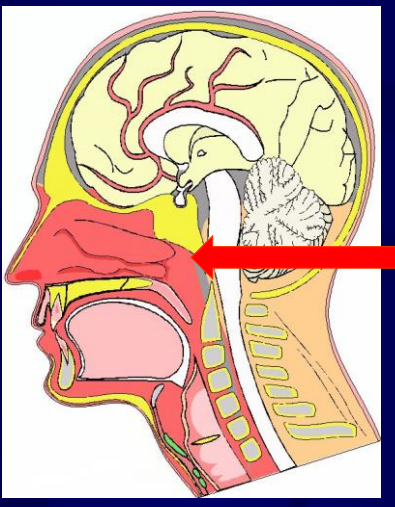
Age-standardized incidence & mortality rates

Hong Kong Cancer Registry 1980-2009



及早發現是治療關鍵

鼻咽位置隱蔽



鼻咽癌的病情演化

≥50% 入侵附近組織

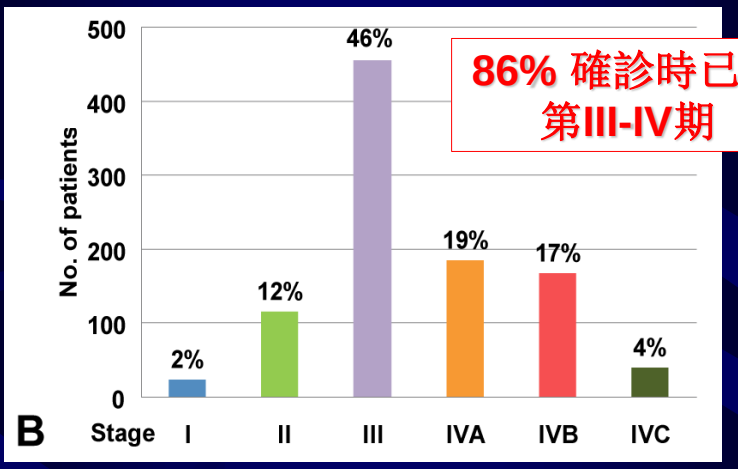
≥80% 局部淋巴影響

≥30% 遠處擴散

鼻咽癌病發時的常見徵狀

1. 早期可以是完全沒有徵狀的
2. 頸側淋巴結脹大，多數是沒有痛楚的
3. 帶血分泌物向後流到喉嚨，產生鼻涕後滴
4. 流鼻血
5. 持續鼻塞
6. 耳鳴，甚至聽覺失靈
7. 若腫瘤開始侵蝕頭顱骨和附近的神經線時，病者會有頭痛、複視、斜視、吞咽困難和面部痲痺等徵狀

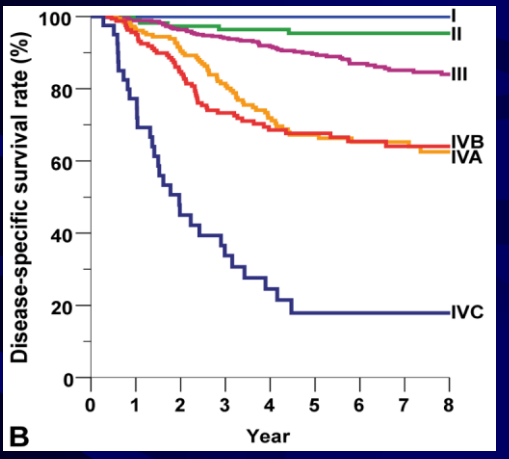
鼻咽癌確診時期數分佈



86% 確診時已是第III-IV期

985 patients treated at Pamela Youde Nethersole Eastern Hospital from 1998 to 2007

鼻咽癌確診時期數和治愈率的關係



Disease-specific Survival

Stage	5-year survival
I	100%
II	95%
III	90%
IVA	67%
IVB	68%
IVC	18%

985 patients treated at Pamela Youde Nethersole Eastern Hospital from 1998 to 2007

高危家庭成員的篩查

東區醫院研究：**1199** 鼻咽癌近親家屬 **(1994-2005)**
平均觀察年期: **5.2 years**

- **Medical history & physical examination**
- **Annual Anti-EBV serology (EB病毒血清檢查)**
  ELISA test (EBNA1 & EBV VCA) and/or
  Indirect IF test (IgA anti-VCA)
- **Nasopharyngoscopy (鼻咽鏡檢查)**
  Biopsy if suspicious growth or positive serology

Ng….. Lee, Familial Cancer 2009

家庭成員定期篩查
提高早期發現的機會

Screening of family members of NPC patients
by EBV serology tests + endoscopy

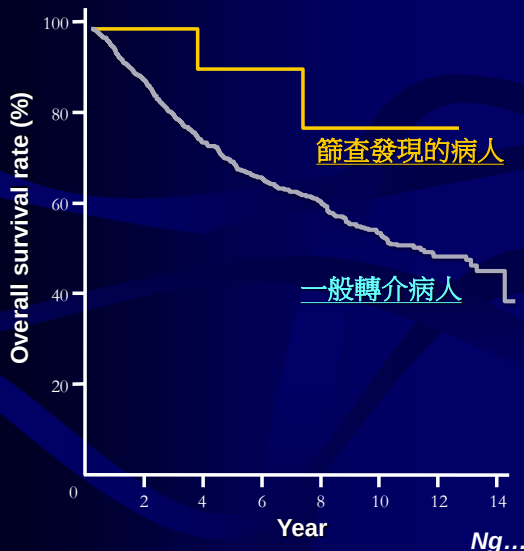
	一般轉介病人	篩查發現的病人
第一期	1%	41% ↑
第四期	40%	6% ↓

Significant Shift in Stage Distribution

***P* < 0.001**

Ng….. Lee, Familial Cancer 2009

提高整體存活率



5-year Survival

92% *vs* 70%

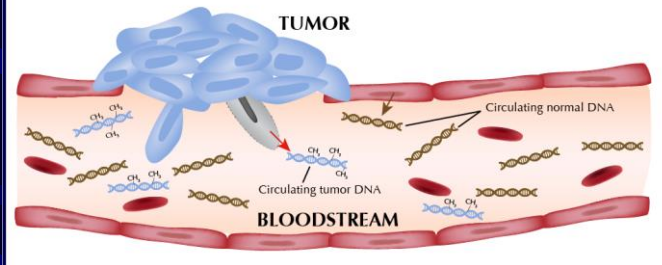
***P* = 0.07**

Lead time adjustment

***P* = 0.32**

Ng….. Lee, Familial Cancer 2009

血漿EB病毒篩查



BLOOD PLASMA
OR SERUM SAMPLE

University of Utah Health Sciences

EB 病毒測試

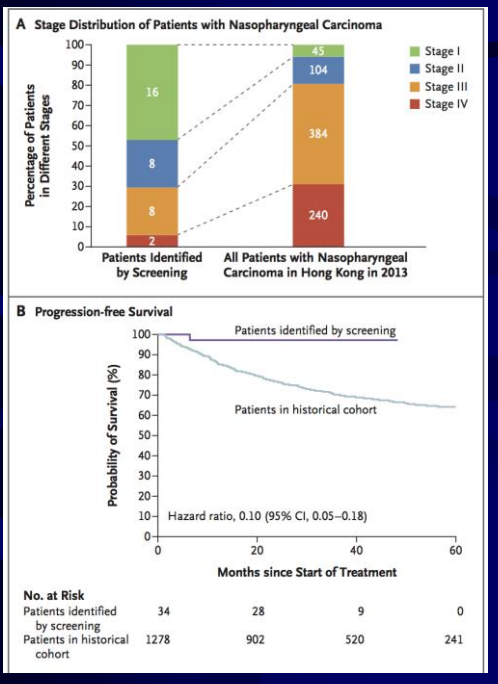
		IgA-VCA血清	EBV-DNA
Sensitivity 敏感性	Stage I-II	72%	90%
	Stage III-IV	85%	98%
	All stages	81%	95%
Specificity 特異性		96%	98%
成本 (USD)		5	75

Leung, Clin Chemistry 2004

中文大學醫學院2017年發表 血漿EB病毒篩查鼻咽癌的研究報告

- 20174 沒有病徵沒有鼻咽癌家族歷史的香港市民參加
- 1112 (5.5%) EB病毒水平偏高
- 309 (1.5%) EB病毒水平持續偏高
- 300 接受鼻咽鏡檢查
- 34確診鼻咽癌

KCA Chan, N Engl J Med 2017;377:513-22



鼻咽癌的診斷，疾病分期和預後因素

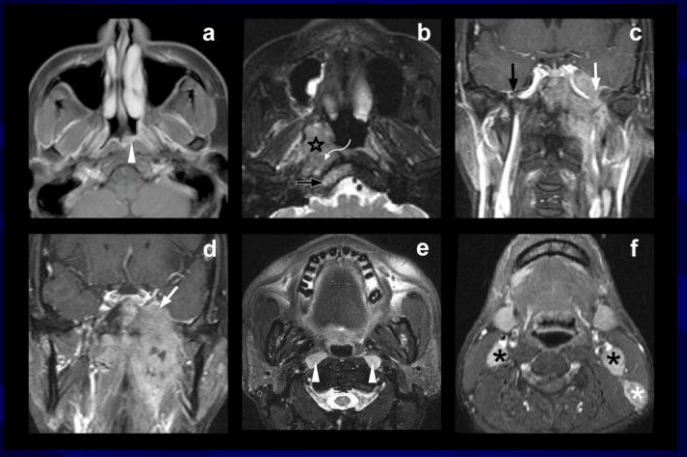
診斷

鼻咽鏡檢查和活檢

醫生進行鼻咽內窺鏡檢查

鼻咽癌的檢查

Magnetic Resonance Imaging 磁力共振

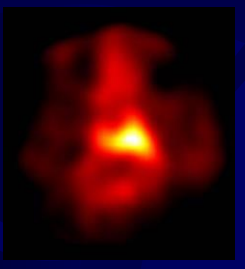


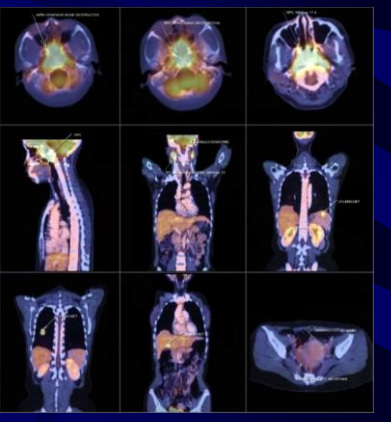
Lee, In: Head and Neck Cancer: Multimodality Management, Bernier (ed) 2010

鼻咽癌的檢查

Imaging for distant metastases (chest, liver, bone) particularly for stage III-IV disease

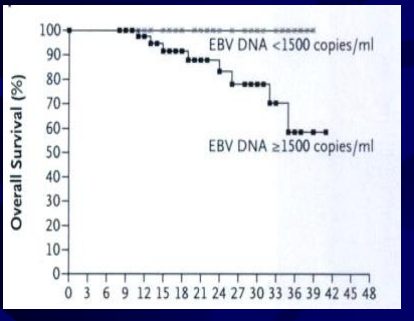
FDG-PET/CT
正電子掃描
排除鼻咽癌遠處擴散



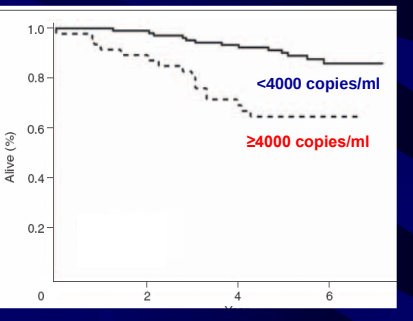


對病情預後的評估

治療前 EBV-DNA 濃度



Study from Taiwan
Lin, NEJM 2004



Study from Hong Kong
Leung, JCO 2006

EBV-DNA 濃度 鼻咽癌的預後

90 Stage I-II NPC with median FU 45m
(All except 3 treated by RT alone)

	Distant failure
I	0
IIA	0
IIB – EBV-DNA <4000 copies/mL	0
IIB – EBV-DNA ≥4000 copies/mL	37%

Leung, Cancer 2003

鼻咽癌的治療

NPC - Invariably Lethal in pre-RT Era

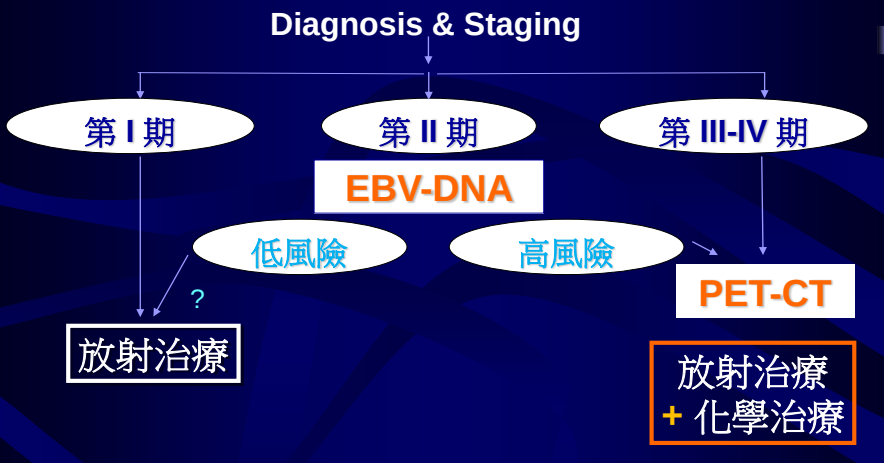
"Thoroughness was not attainable at the bottom of a deep pit

Surgery merely added to anemia of cancerous cachexia"

手術不可能把腫瘤徹底清除，
只會加重腫瘤帶來的痛苦

Jackson 1901

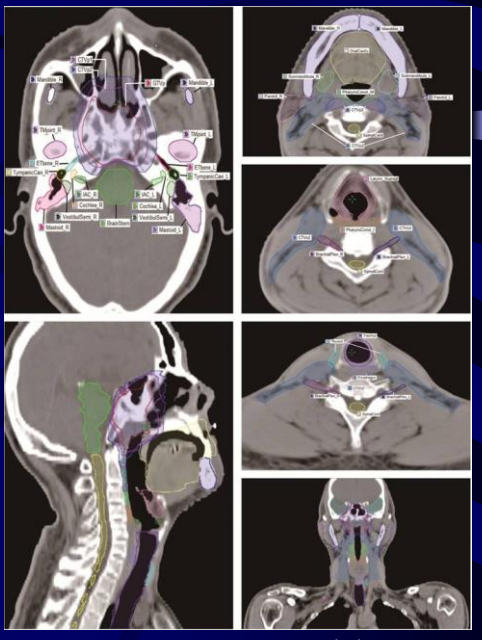
鼻咽癌的治療路徑



對腫瘤科醫生的挑戰

放射能量要完全覆蓋腫瘤範圍
同一時間要保護正常的組織

- 腦幹
- 脊椎神經
- 視覺神經
- 大腦
- 腦下垂體
- 眼球
- 唾液腺
- 耳蝸
- 口腔
- 牙骨和頭骨

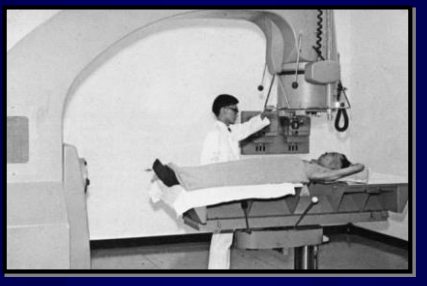


J Cancer 2016; 7(14):2157-2164

Advent of Megavoltage RT (兆伏級放射治療)

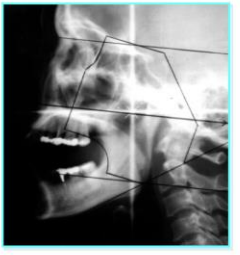
First Breakthrough

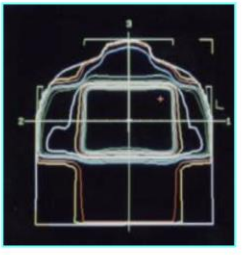
“五年的存活率竟然有25%”

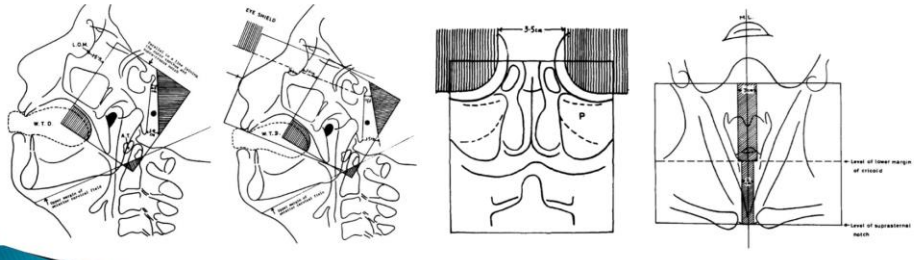


Moss 1965

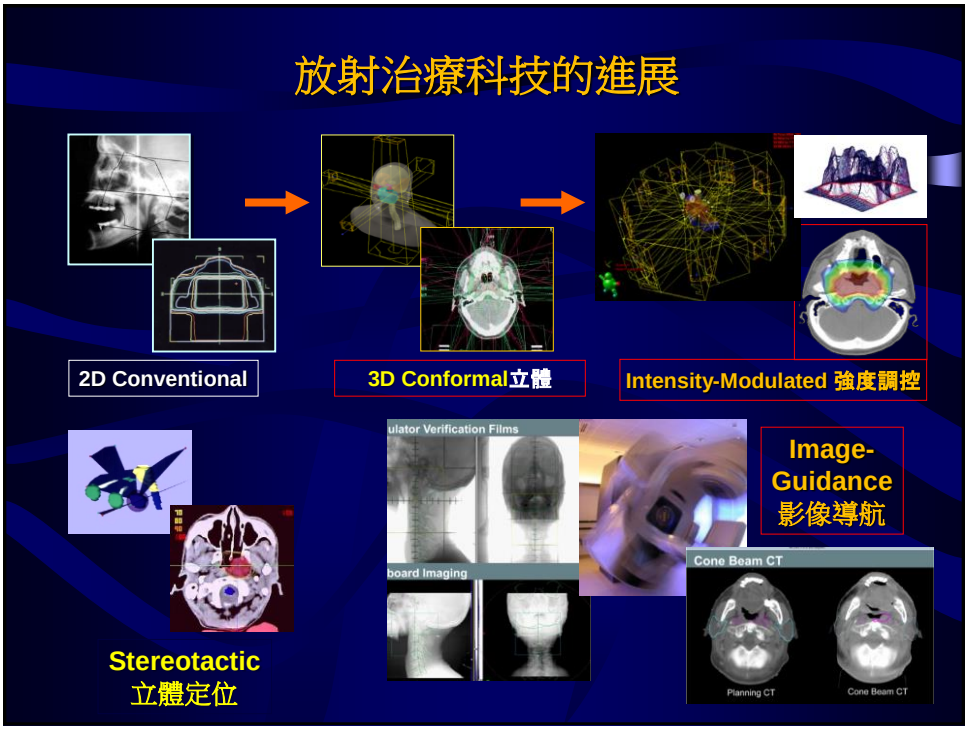
何鴻超教授 (1916-2005) 何氏分期法 及 何氏放射治療法

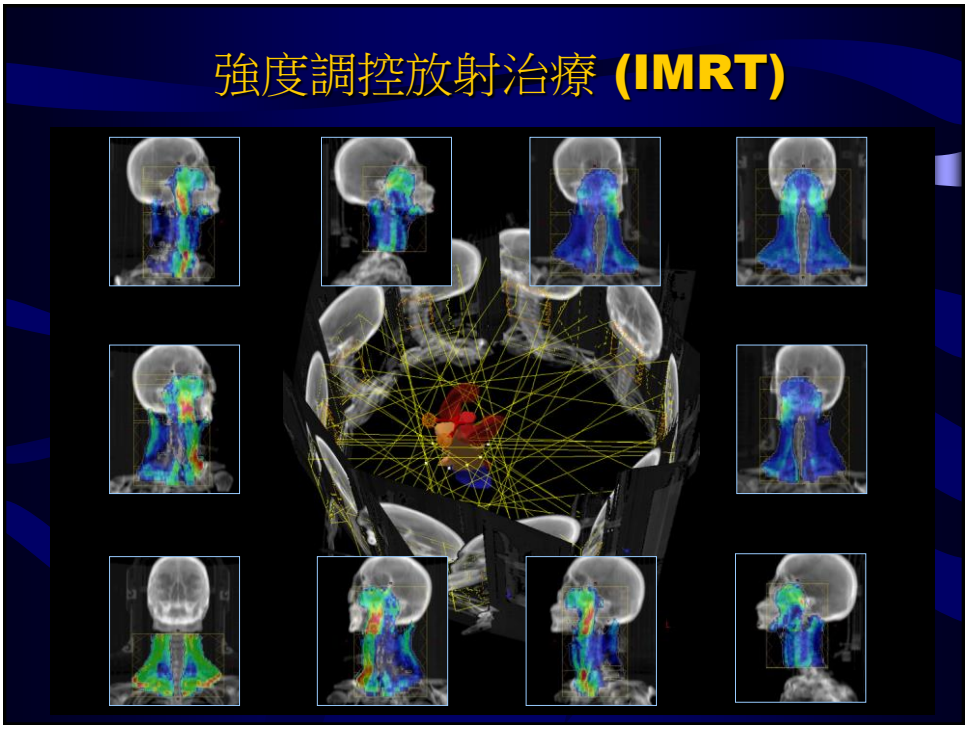




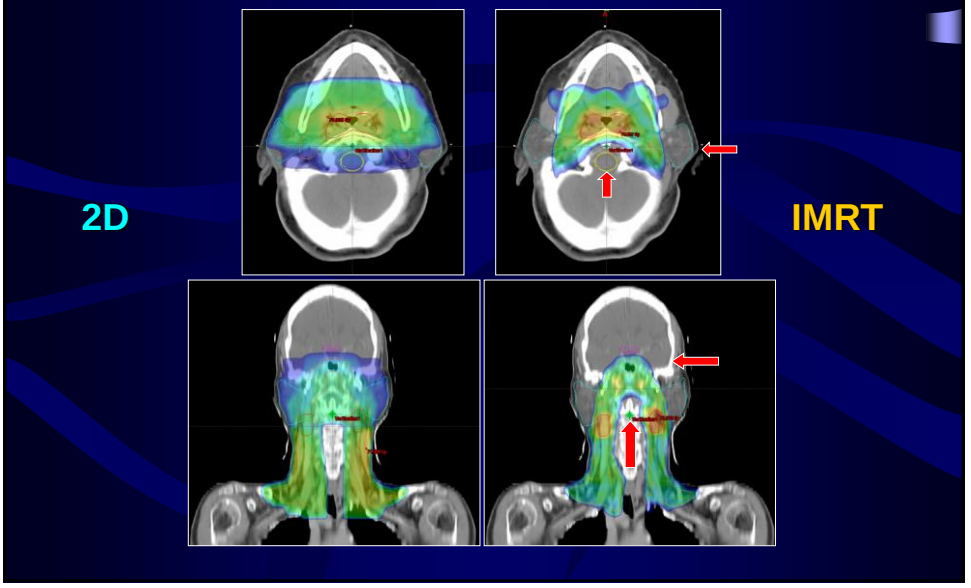


Ho, Del Regato Lecture, IJROBP 1978

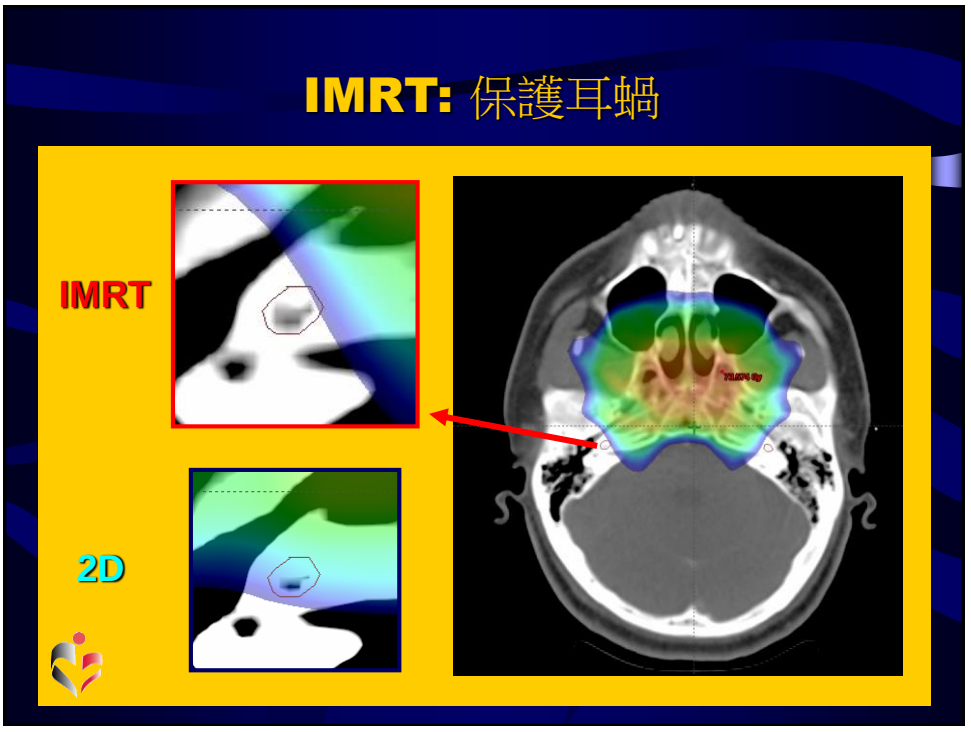

放射治療科技的進展
2D Conventional
3D Conformal立體
Intensity-Modulated 強度調控
Stereotactic
立體定位
ulator Verification Films
board Imaging
Image-
Guidance
影像導航
Cone Beam CT
Planning CT
Cone Beam CT


強度調控放射治療 (IMRT)

IMRT: 改善放射劑量的分佈



IMRT: 保護耳蝸



鼻咽癌的放射治療

體位固定

Head & Shoulder Cast
Headrest on Alpha Cradle shoulder support
Head Extension (base-board)

A Lee

腫瘤範圍的準確評估

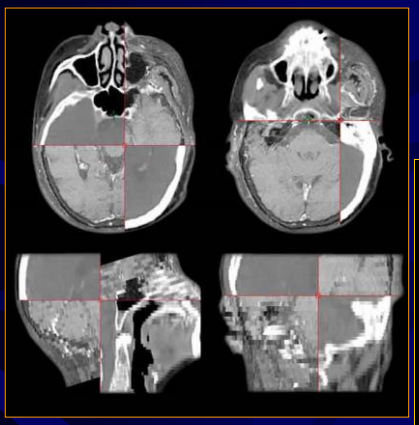
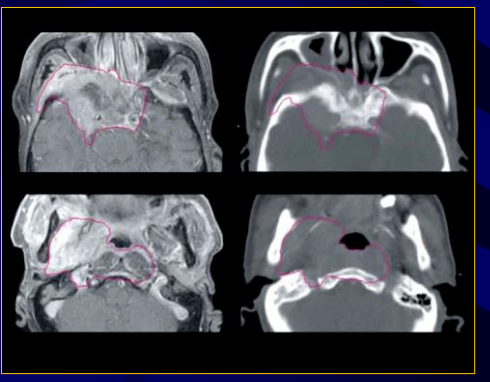


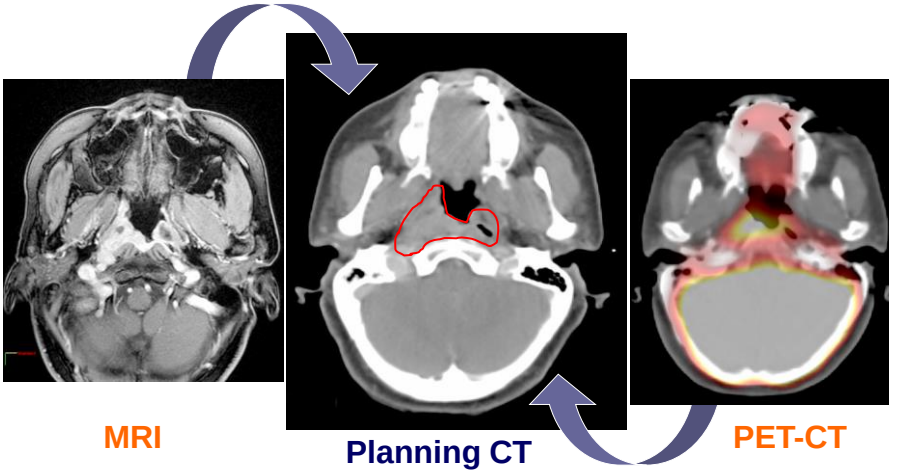
Image Fusion

Diagnostic MRI ↔ Planning CT

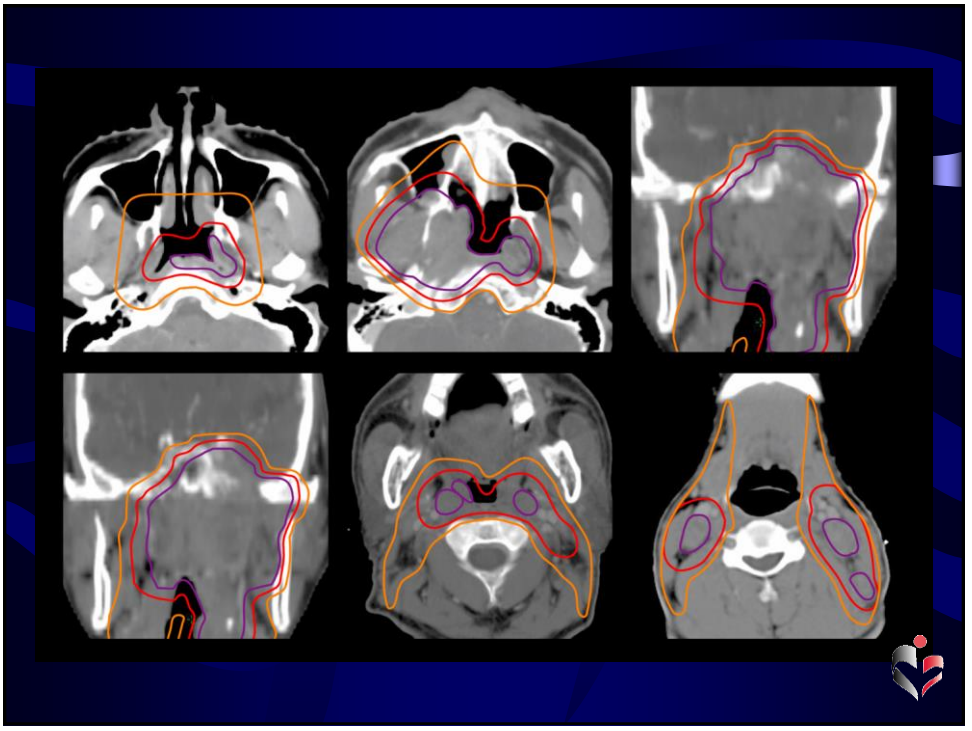


A Lee

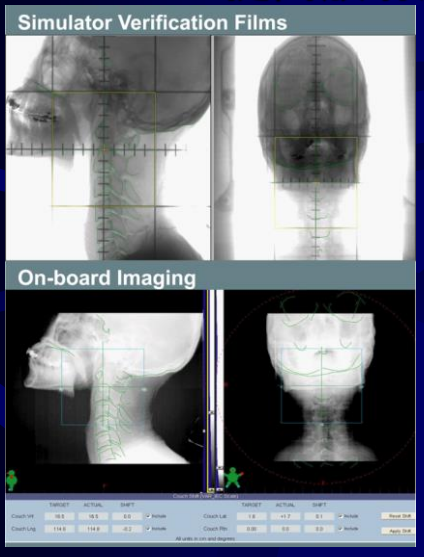
影像融合 : 磁力共振和正電子掃描

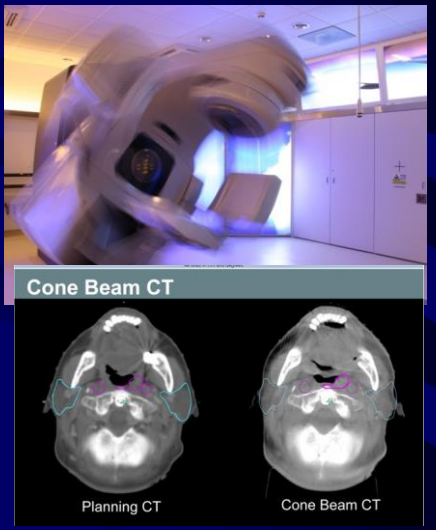


A Lee



影像導航(Image Guidance)
提高放射治療準確度





隨機對照組臨床試驗: IMRT vs 2DRT

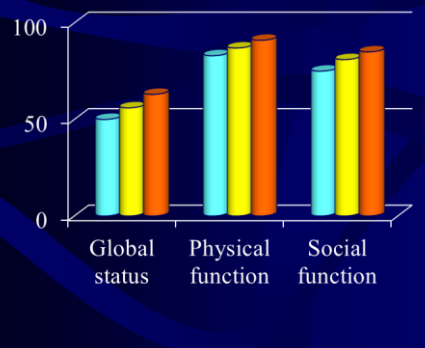
五年數據	IMRT	2DRT	P
鼻咽腫瘤控制率	91	84	0.046
頸部淋巴控制率	92	84	0.049
整體存活率	80	67	<0.001

Peng, R&O 2012

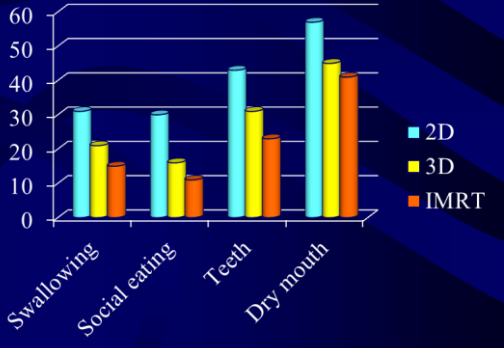
新式放射治療提高病人的生活質素

2DRT → 3DRT → IMRT

Quality of life domains

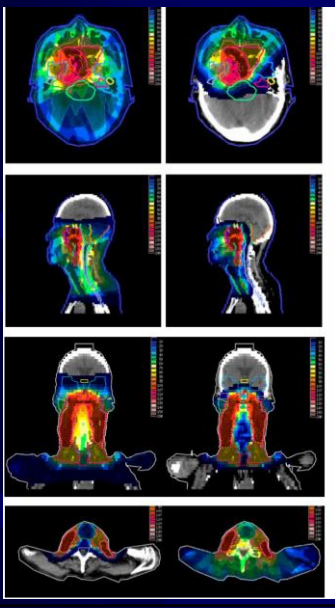


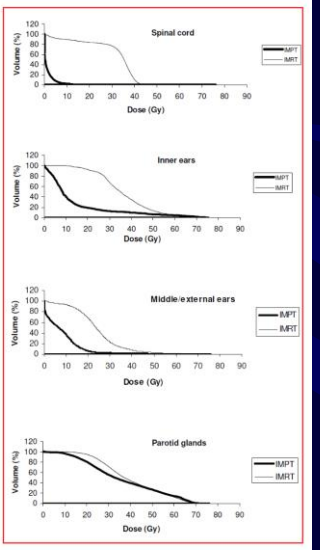
Head & neck symptoms



Fang, R&O 2010

新發展：質子治療：減低對正常組織的損害

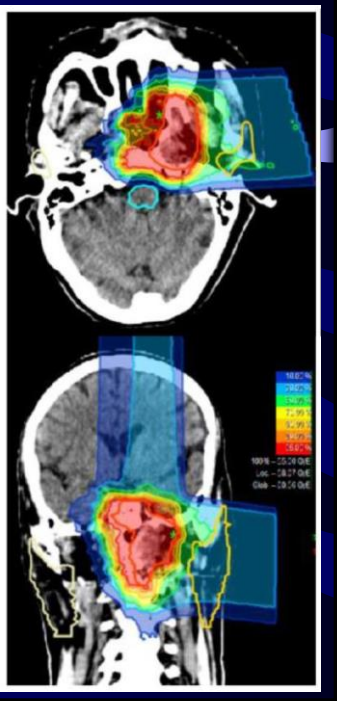




Taheri-Kadkhoda, Radiat Onc 2008

新發展：碳離子治療

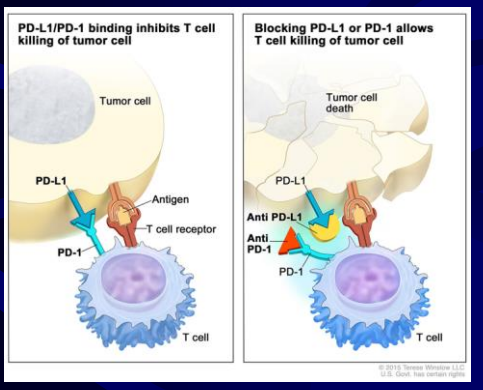
The Heidelberg Ion-Beam Therapy Center (HIT)



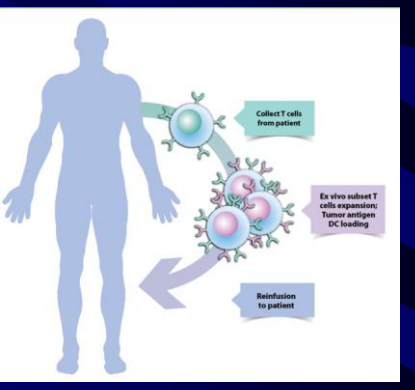
Kong, J of Cancer 2016

鼻咽癌的免疫治療和細胞治療

已進入臨床試驗階段

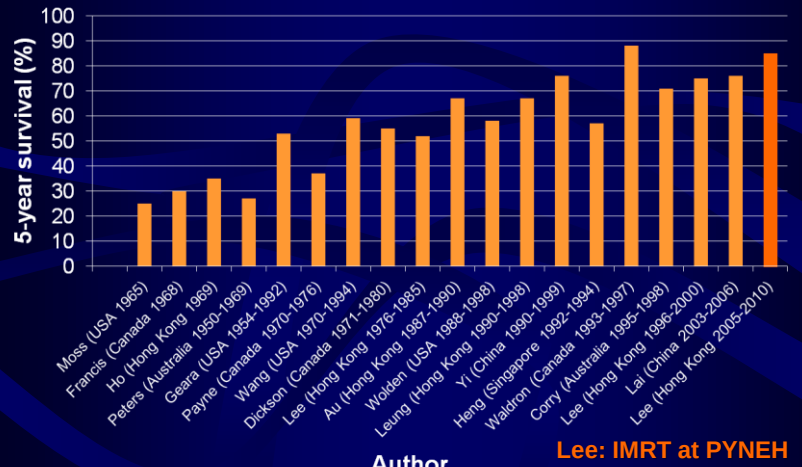


免疫檢查點阻斷劑



T細胞輸入療法

鼻咽癌：五年存活率



Lee: IMRT at PYNEH
Disease-Specific Survival 85%
Overall Survival 80%