

護理系學生修習解剖學 課程之成效評估

錢宗良

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護理學系學生修習解剖學課程之成效評估

王霈、尹相姝、呂俊宏、吳建春、謝松蒼、錢宗良

The Evaluation of Anatomy Course Provided for the Nursing Students

*Pei Wang, Hsiang-Shu Yin, June-Horng Lue, Jiahn-Chun Wu,
Sung-Tsang Hsieh, Chung-Liang Chien*

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Table 1. Evaluations of anatomy course

1. Evaluation to the content of anatomy course				
Year of class	Satisfactory	Fair	Hard	Unknown
2001	82.6%	17.4%	0.0%	0.0%
2002	70.0%	30.0%	0.0%	0.0%
2003	75.0%	25.0%	0.0%	0.0%
average	75.9%	24.1%	0.0%	0.0%

2. Learning evaluation after completion of anatomy course				
Year of class	Learn a lot	OK	Just good for exam*	Unknown
2001	50.0%	43.5%	6.5%	0.0%
2002	40.0%	42.5%	17.5%	0.0%
2003	42.5%	40.0%	17.5%	0.0%
average	44.2%	42.0%	13.8%	0.0%

*chi-square test, $\chi^2=3.01585$ (.05 < p< .10, df = 2)

Table 2. Learning materials and methods

1. Reading materials during the study of anatomy (multiple choices)					
Year of class	Textbook ^a	Translated textbook	Syllabus ^b	Allied notes	None of above
2001	82.6%	6.5%	91.3%	28.3%	0.0%
2002	82.5%	10.0%	90.0%	7.5%	0.0%
2003	70.0%	7.5%	82.5%	20.0%	0.0%
average	78.4%	8.0%	87.9%	18.6%	0.0%

2. Learning methods of anatomical terms and their translations (multiple choices)				
Year of class	Dictionary ^c	Translation from syllabus	Translation from teachers	None of above
2001	84.8%	82.6%	63.0%	0.0%
2002	85.0%	65.0%	62.5%	5.0%
2003	69.2%	82.1%	61.5%	0.0%
average	79.7%	76.6%	62.4%	1.7%

^achi-square test, $\chi^2=2.55744$ ($p > .10$, $df = 2$)^bchi-square test, $\chi^2=1.78414$ ($p > .10$, $df = 2$)^cchi-square test, $\chi^2=5.03842$ ($.05 < p < .10$, $df = 2$)

Table 3. Evaluations after the completion of anatomy course

1. Learning of medical terms after the completion of anatomy course				
Year of class	Very helpful	Helpful	No help	Unknown
2001	30.4%	65.2%	2.2%	2.2%
2002	22.5%	70.0%	2.5%	5.0%
2003	25.0%	70.0%	2.5%	2.5%
average	26.0%	68.4%	2.4%	3.2%

2. Learning of your own professional courses after completion of anatomy course				
Year of class	Very helpful	Helpful	No help	Unknown
2001	21.7%	69.6%	4.3%	4.3%
2002	32.5%	62.5%	0.0%	5.0%
2003	17.5%	82.5%	0.0%	0.0%
average	23.9%	71.5%	1.4%	3.1%

3. Studying of anatomy to the daily medical applications				
Year of class	Very helpful	Helpful	No help	Unknown
2001	28.3%	65.2%	2.2%	4.3%
2002	30.0%	70.0%	0.0%	0.0%
2003	32.5%	67.5%	0.0%	0.0%
average	30.3%	67.6%	0.7%	1.4%

Table 4. Evaluation and request for laboratory training

1. Recognition of human body with laboratory training of anatomy				
Year of class	Very helpful	Helpful	No help	Unknown
2001	37.0%	54.3%	2.2%	6.5%
2002	47.5%	50.0%	2.5%	0.0%
2003	35.9%	64.1%	0.0%	0.0%
average	40.1%	56.2%	1.6%	2.2%

2. Request for the quality and quantity of anatomy laboratory				
Year of class	More	Proper	Less	No need
2001	43.5%	54.3%	2.2%	0.0%
2002	55.0%	42.5%	0.0%	2.5%
2003	42.5%	55.0%	2.5%	0.0%
average	47.0%	50.6%	1.6%	0.8%

醫學相關科系學生修習解剖學課程之意見調查

錢宗良、王 霈、尹相姝、呂俊宏、吳建春、謝松蒼、盧國賢

Table 1. Summary of the qualified 246 questionnaires

- | | | | | |
|---------------------------------|-----------|---------------|--------------|------------------|
| 1. 對本學期解剖學的教學課程內容： | 滿意 58% | 尚可 41% | 艱深難懂 1% | 不知道 0% |
| 2. 對本學期解剖學的學習成效自我評估： | 學到許多 24% | 尚可 49% | 勉強應付考試 26% | 不知道 1% |
| 3. 對於解剖學學習過程中，主要閱讀參考資料 (可多選)： | 原文教課書 77% | 翻譯版教課書 13% | 講義 90% | 共同筆記 27% 以上皆非 0% |
| 4. 對於學習解剖學專有名詞的原文及翻譯主要方法 (可多選)： | 查字典 65% | 學講義上的翻譯名詞 85% | 等老師上課時翻譯 68% | 以上皆非 0% |
| 5. 修過解剖學後，對於學習原文的醫學相關專有名詞： | 非常有幫助 19% | 有幫助 75% | 沒有幫助 2% | 不知道 4% |
| 6. 修習過解剖學後，對於學習將來本科系的專業科目： | 非常有幫助 10% | 有幫助 72% | 沒有幫助 4% | 不知道 14% |
| 7. 修習過解剖學後，對於日常生活遇上的人體結構認知： | 非常有幫助 20% | 有幫助 77% | 沒有幫助 1% | 不知道 1% |
| 8. 對於本學期解剖學的實習課是否能實際幫助瞭解人體結構： | 非常有幫助 26% | 有幫助 71% | 沒有幫助 1% | 不知道 2% |
| 9. 對於解剖學的實習課時數與內容設計： | 應再增加 47% | 適當 52% | 可再減少 1% | 不需要實習課 0% |

解剖學教學內容:

以今年台大護理系課程為例

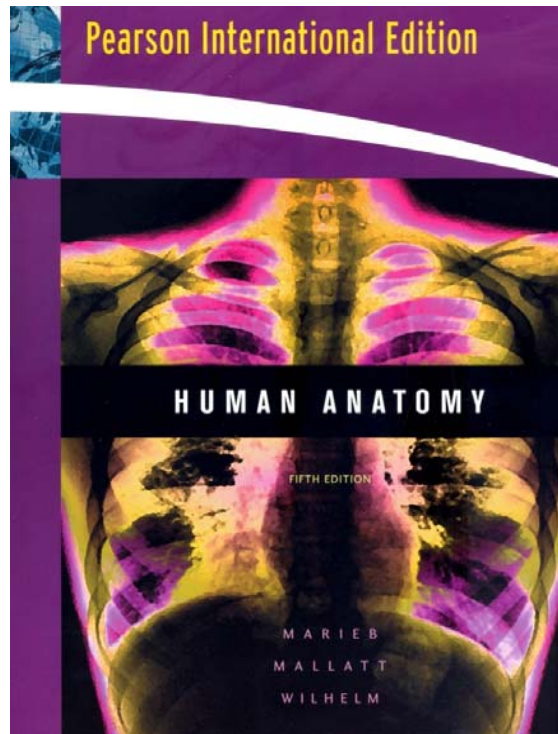
日期	時間	主題	教師
9/14 (W)	9:10-10 am	Introduction	錢宗良
9/14 (W)	10-12 am	Tissues (General Histology)	錢宗良
9/21 (W)	9:10-12 am	Skeletal System I	王淑慧
9/28 (W)	9:10-12 am	Skeletal System II	王淑慧
10/5 (W)	9:10-12 am	Muscular System	王淑慧
10/12 (W)	9:10-12 am	Cardiovascular System	黃敏銓
10/19 (W)	9:10-12 am	Digestive System	賴逸儒
10/26 (W)	9:10-12 am	Early Embryology & Integumentary System	龔秀妮
11/2 (W)	9:10-12 am	Lab. I	全體教師
11/9 (W)	9:10-12 am	Midterm Exam	錢宗良
11/16 (W)	9:10-12 am	Nervous System I	錢宗良
11/23 (W)	9:10-12 am	Nervous System II	錢宗良
11/30 (W)	9:10-12 am	Somatic and Special Sense	錢宗良
12/7 (W)	9:10-12 am	Endocrine and Female Reproductive System	龔秀妮
12/14 (W)	9:10-12 am	Urinary and Male Reproductive System	龔秀妮
12/21 (W)	9:10-12 am	Lymphatic and Respiratory System	王淑慧
12/28 (W)	9:10-12 am	Lab. II	全體教師
1/4 (W)	9:10-12 am	Lab. III	全體教師
1/11 (W)	9:10-12 am	Final Exam	錢宗良

Textbook:

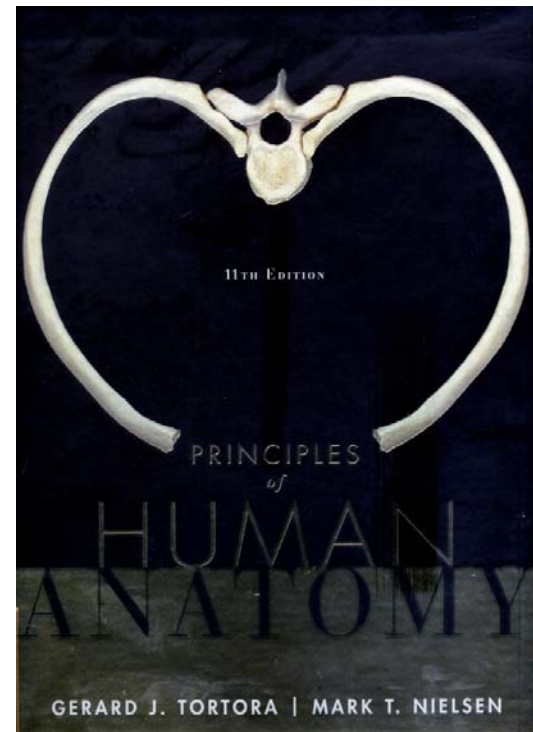
(1) **Human Anatomy.** MARIEB et al. (2014) 7th ed. Pearson Edu., Inc.

(2) **Principles of Human Anatomy.**

G. J. Tortora and M.T. Nielsen (2014) 13th ed. John Wiley & Sons, Inc.



台灣代理：偉明圖書



台灣代理：合記書局

Midterm Exam範圍 (40%) : 10/ 26 (含) 以前課程

Final Exam範圍 (40%) : 11/ 16 (含) 以後課程；

時間地點由教務分處統一分配

Lab. Exam (10%) : 所有實習課程內容；

時間為Final Exam筆試完後同地點考幻燈片(實體與模型)

平時成績 (10%) : 實習課程及考試準時出席

考試主要題型：選擇、是非、配合、簡答與問答

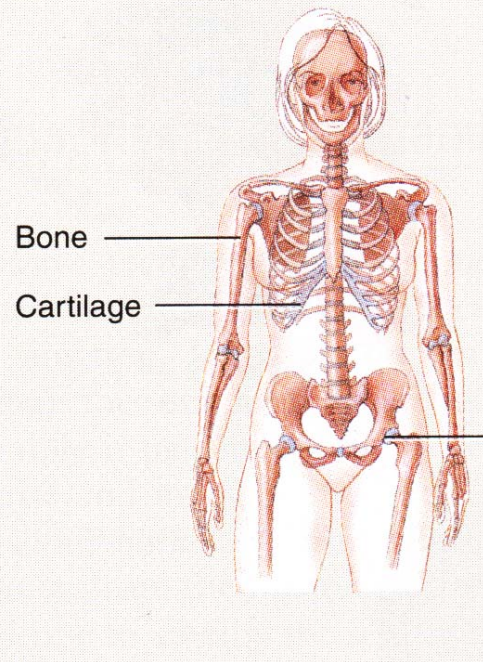
負責助教：楊耀華（分機 62212）

Skeletal system (骨骼系統) 以動畫加深印象

Skeletal System

Components All the bones and joints of the body and their associated cartilages.

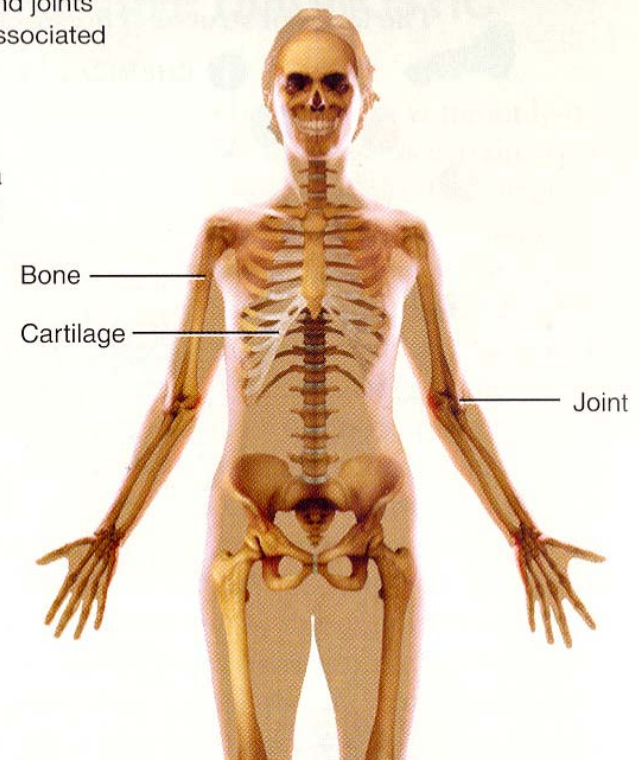
Functions Supports and protects the body; assists in body movements; houses cells that give rise to blood cells; and stores minerals and lipids (fats).



SKELETAL SYSTEM

Components Bones and joints of the body and their associated cartilages.

Functions Supports and protects the body; provides a surface area for muscle attachment; aids body movements; houses cells that produce blood cells; stores minerals and lipids (fats).



Osteoporosis 骨質疏鬆:



SEM 30x

(A) Normal bone

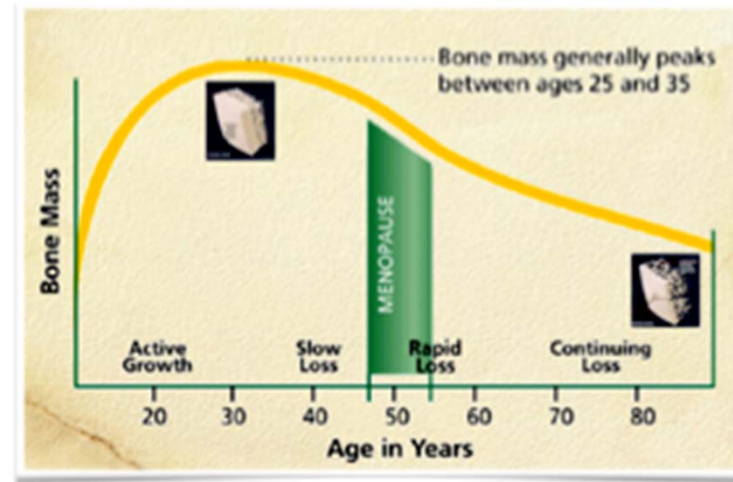
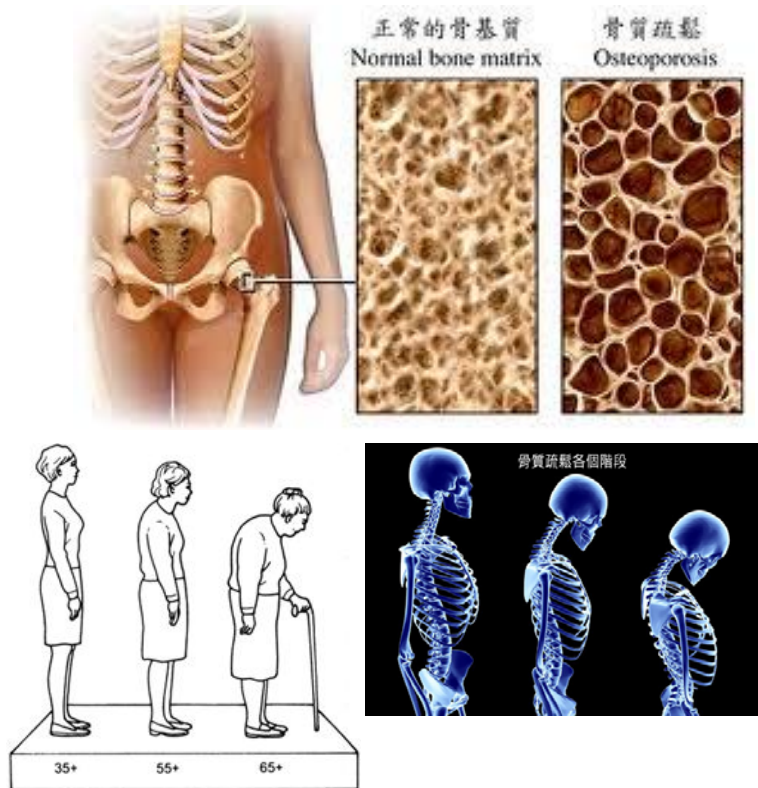


SEM 30x

(B) Osteoporotic bone

骨質疏鬆症 (Osteoporosis)

其原因為年紀增大以後骨頭(主要是海綿骨)的鈣質流失，使得內部骨小樑變少，造成許多孔隙，呈現中空疏鬆的現象，換句話說，即是骨骼密度變小，單位體積內骨骼所含的礦物質質量減少。退化性骨質疏鬆症，又可分為 **Type I**—由於停經後所引起，稱之為停經後骨質疏鬆症 (**post-menopausal osteoporosis**)；與 **Type II**—由於年紀老邁引起，稱之為老年型骨質疏鬆症。



骨質密度隨年齡的變化

5) Sphenoid bone 蝶骨

pterygoid processes: 翼突 medial and lateral

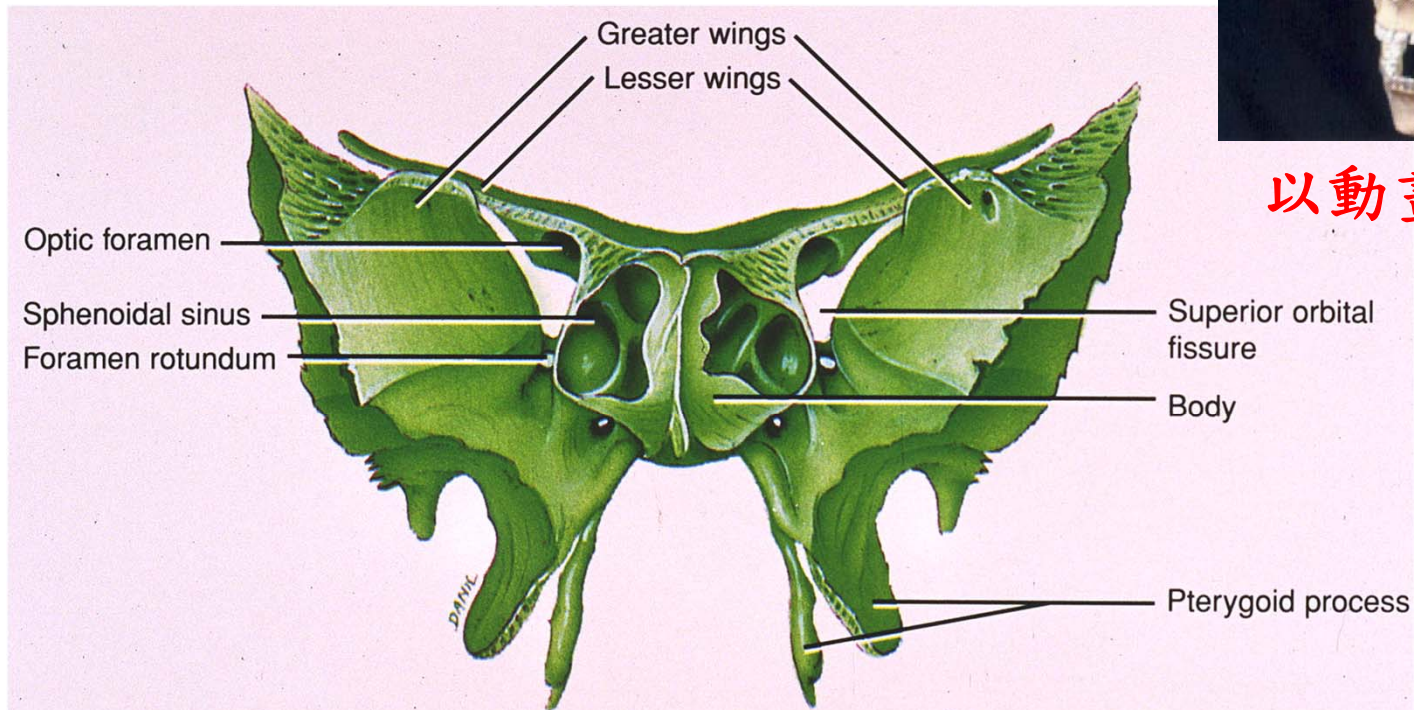
lesser wings: 小翼 optic foramen 視神經孔 (CN II)

greater wings: 大翼

superior orbital fissure 眶上裂 (CN III, IV, & VI)



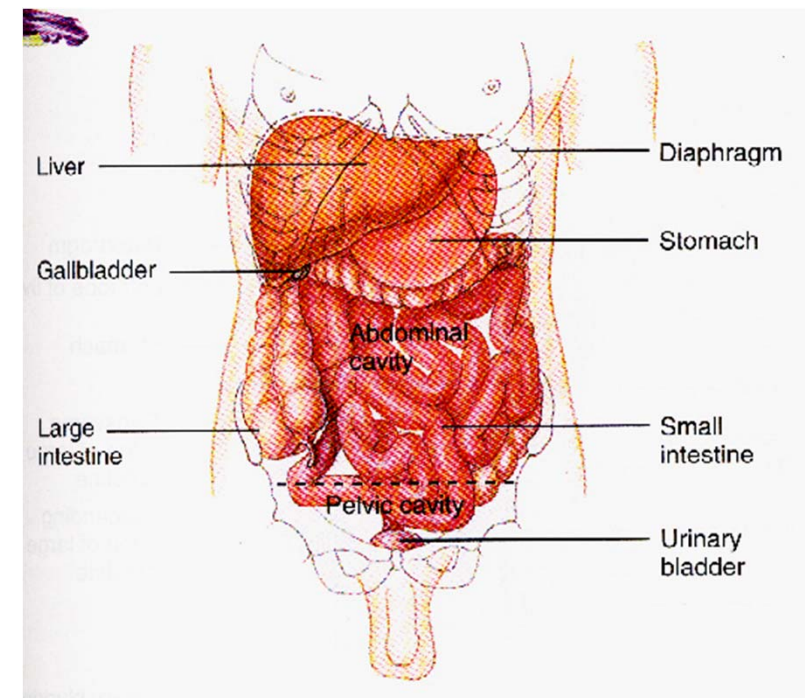
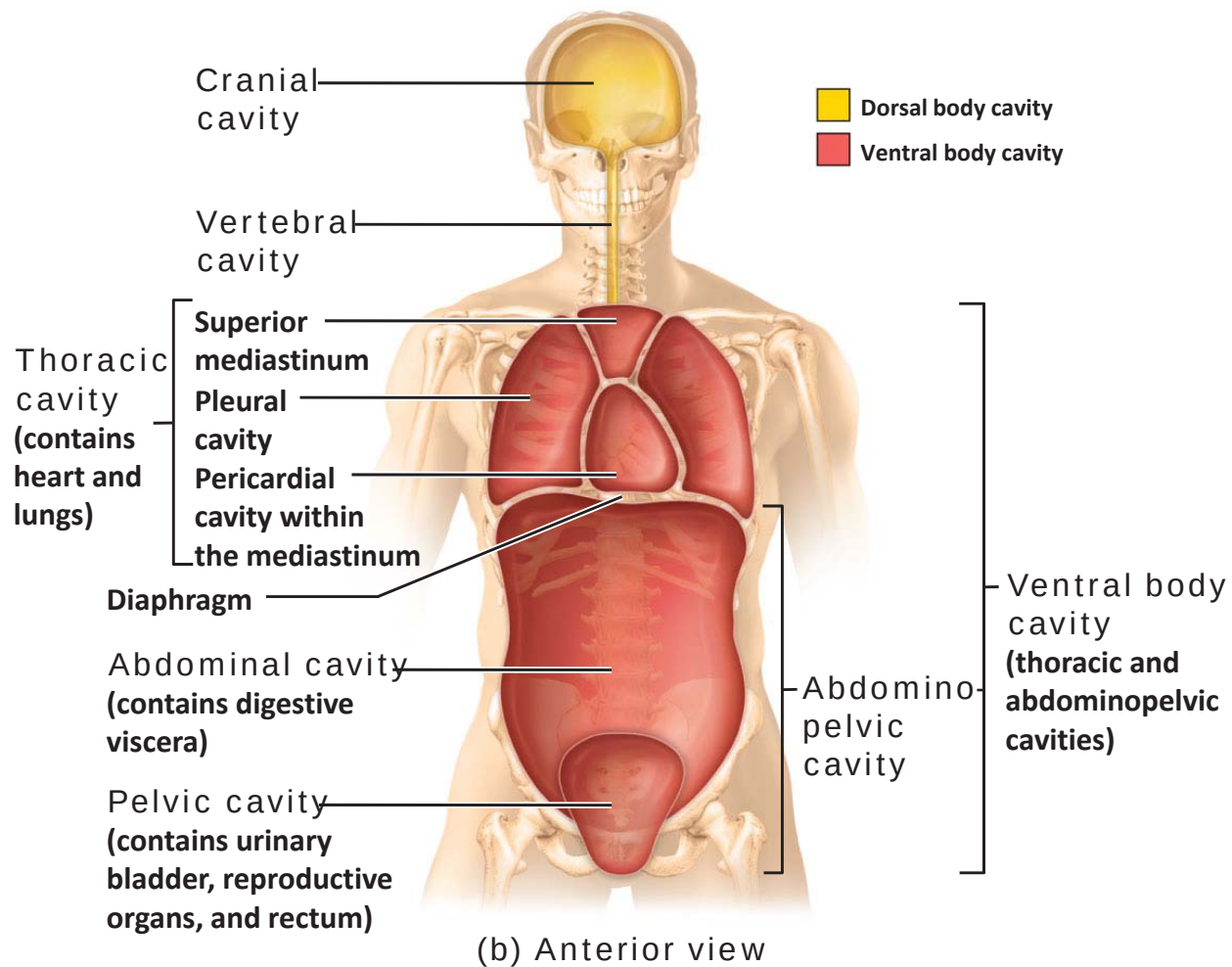
以動畫加深印象



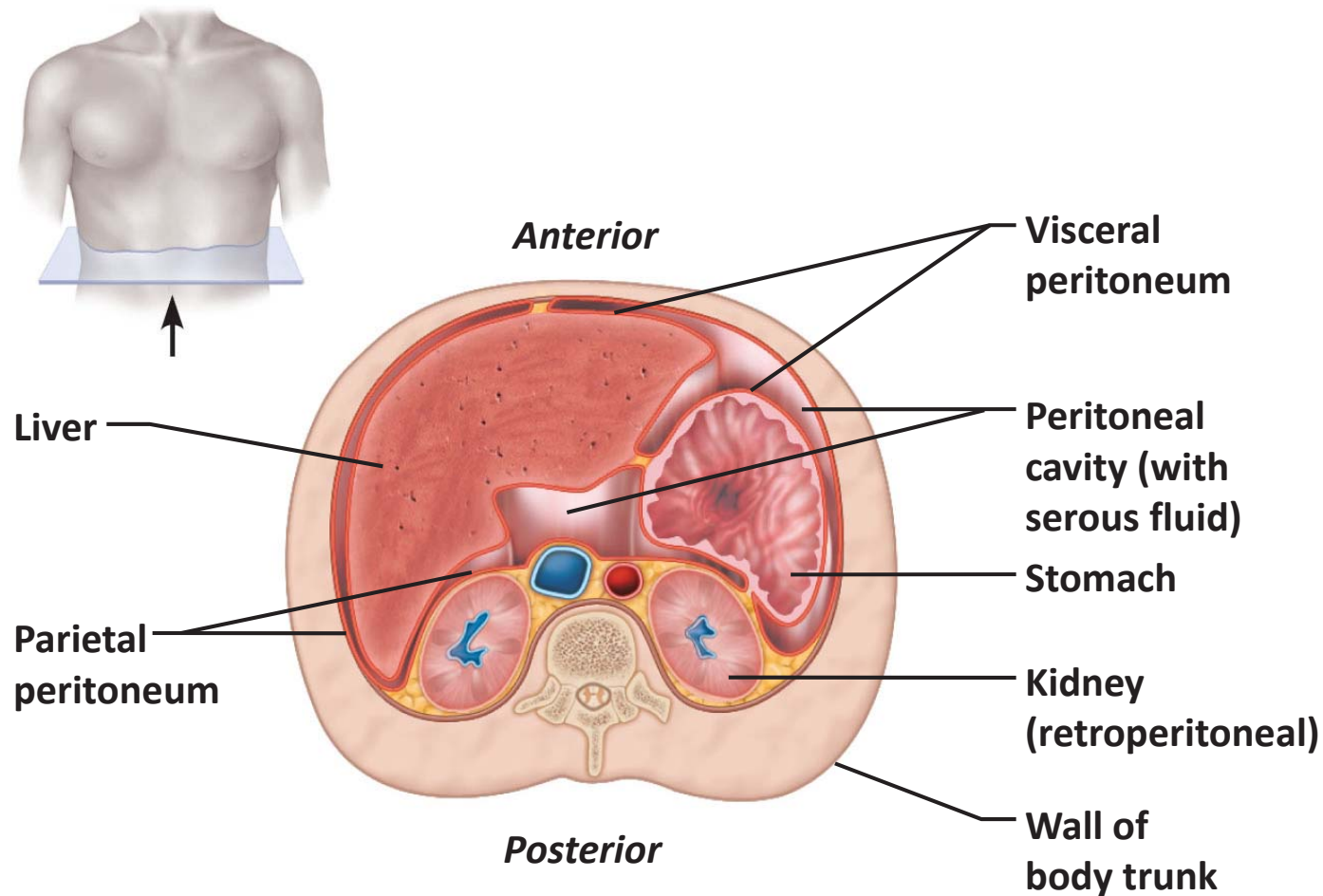
Cranial fossae, anterior view of sphenoid bone, Fig# 6.8b-c

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以CSI 辦案找答案的方式，引發同學求知慾望。



以CSI 辦案找答案的方式，引發同學求知慾望。

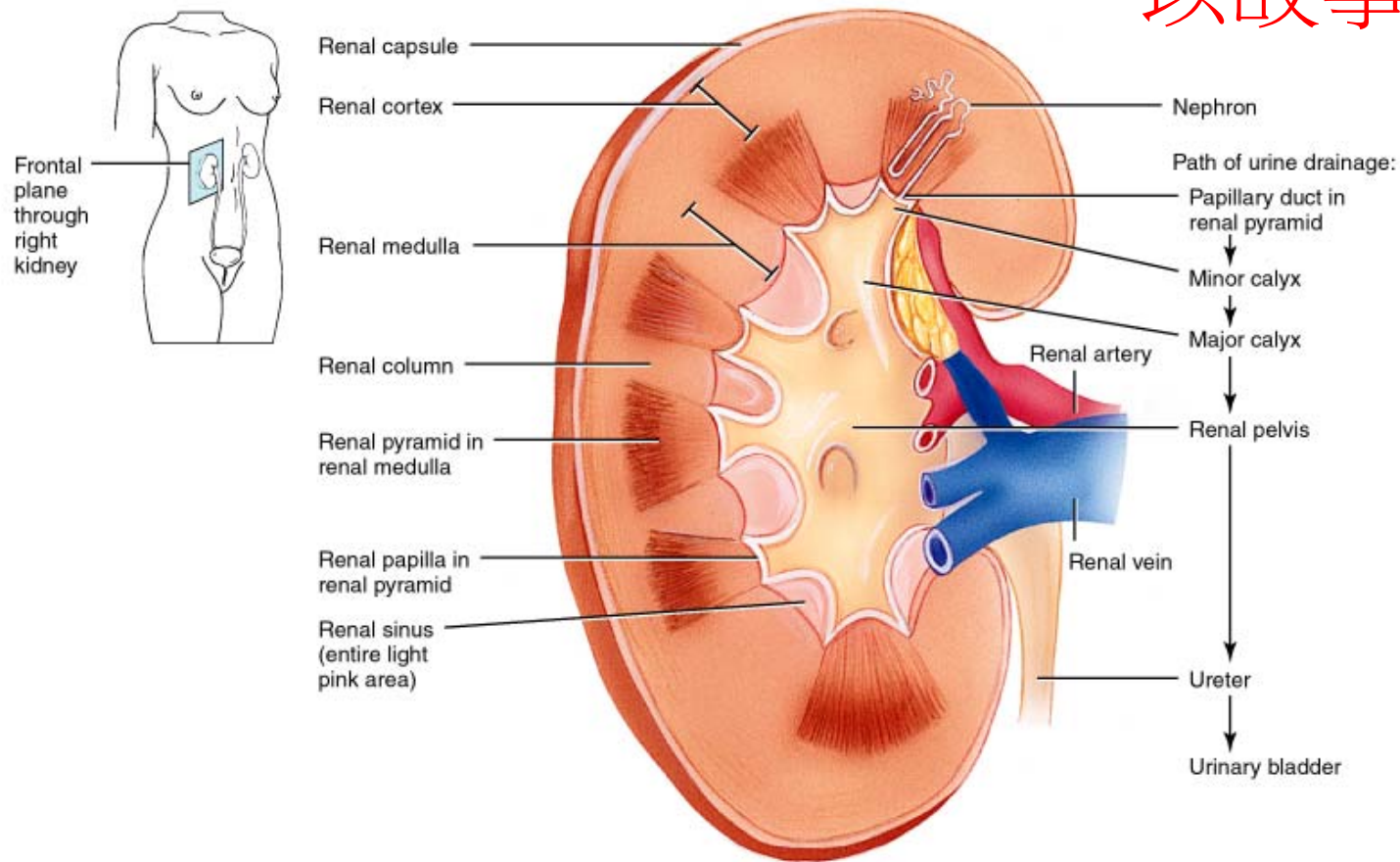


Internal anatomy :

renal pelvis 腎盂 ← major calyces 腎大盞(2-3) ← minor calyces 腎小盞

(8-18) **Transitional epithelia**

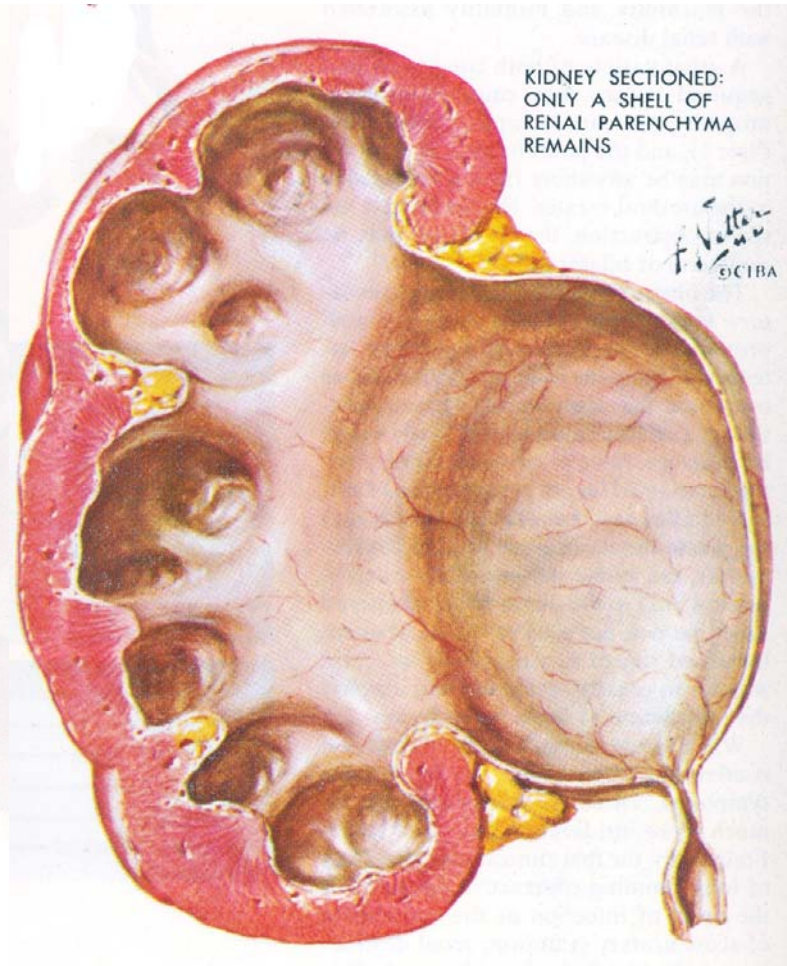
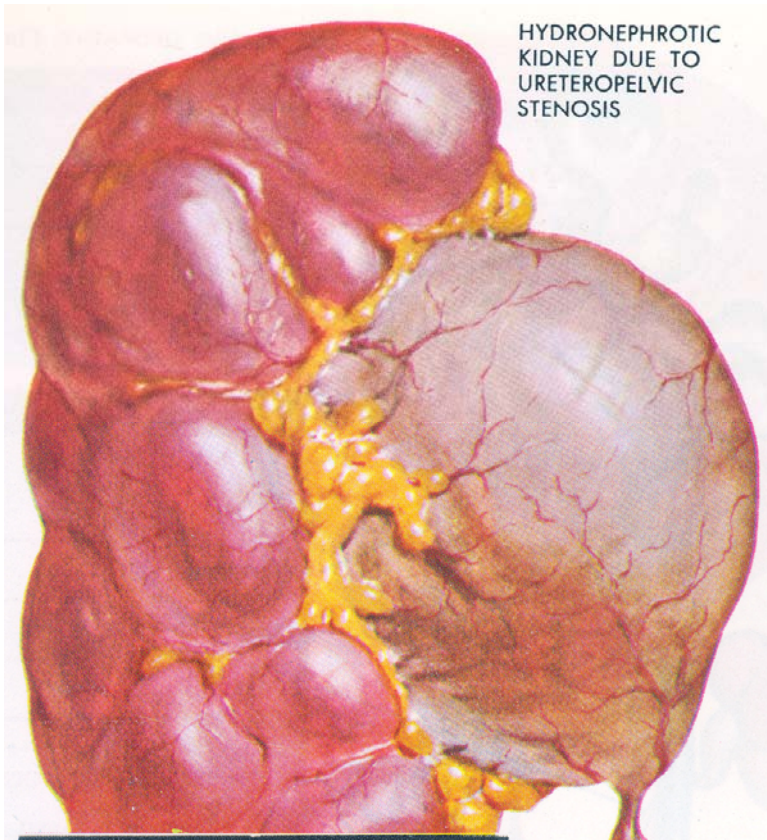
以故事加強趣味性。



(a) Diagram of frontal section of right kidney

Hydronephrosis 水腎

以生活故事加強趣味性。

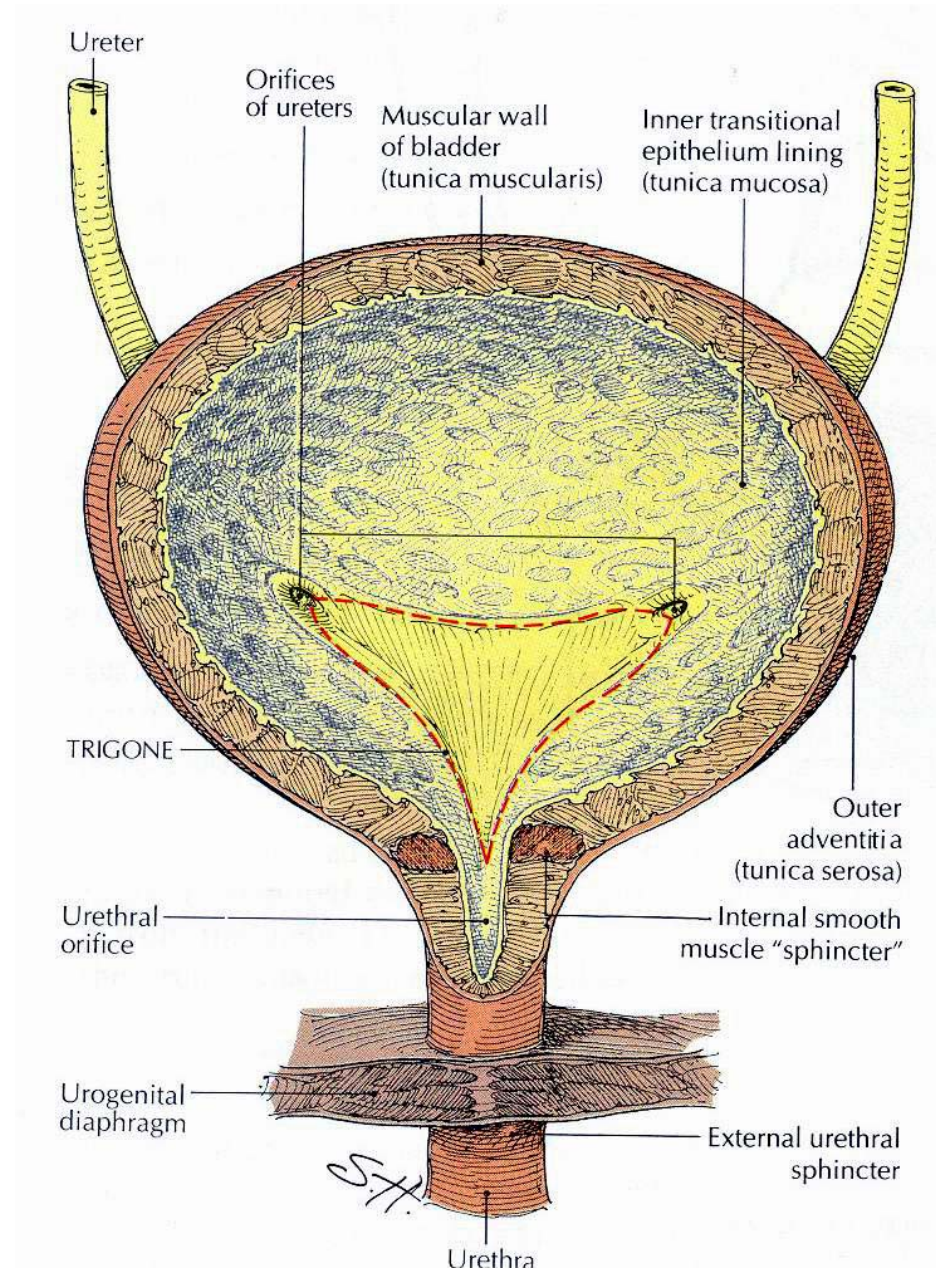


Trigone(膀胱三角):
between orifices of the two
ureters and internal urethral
orifice (內尿道口)

以生活故事加強趣味性

Internal urethral sphincter
(內尿道括約肌): smooth muscle

External urethral sphincter
(外尿道括約肌): skeletal muscle



Nerve innervation: from S3-4 and hypogastric plexus

腹下神經叢

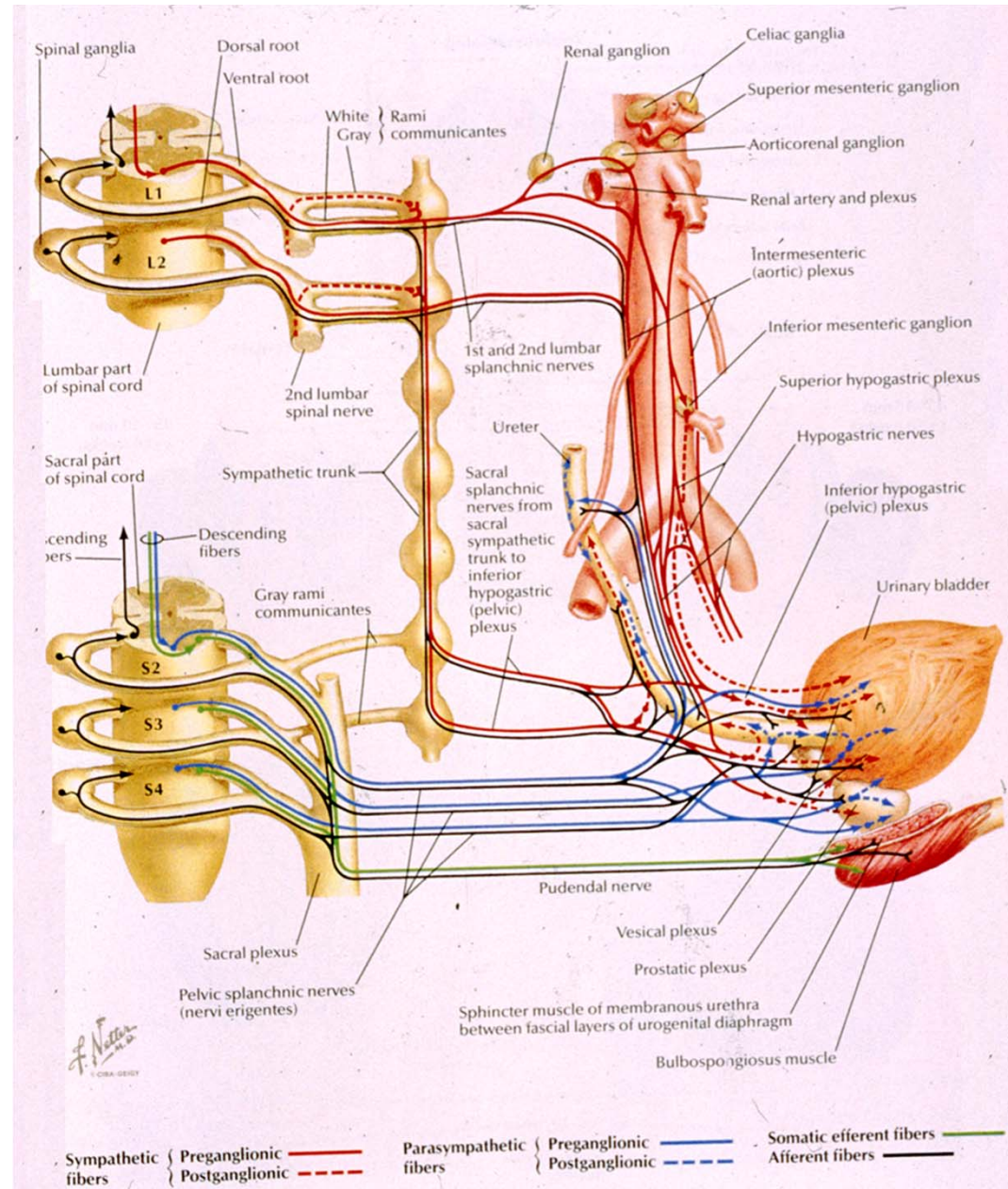
1. sympathetic:

motor to vessels of bladder,
smooth muscle of trigone and
around internal urethral orifice
contraction during ejaculation
射精 to prevent reflux of semen
精液

2. parasympathetic:

motor to detrusor muscle
(except internal urethral
muscle)

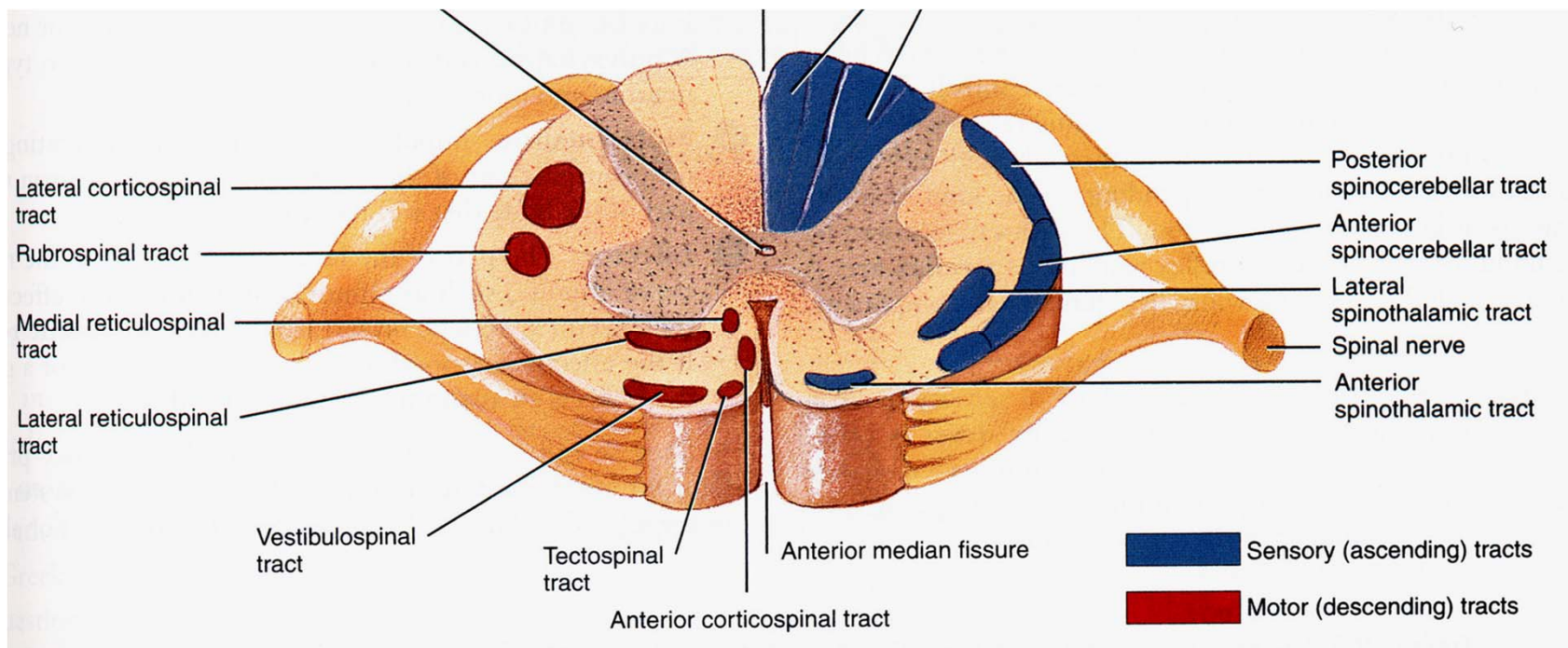
3. sensory: via
parasympathetic



舉生活的案例，讓同學動一動，
e.g. 本體感覺，左右手向後是否碰得到？

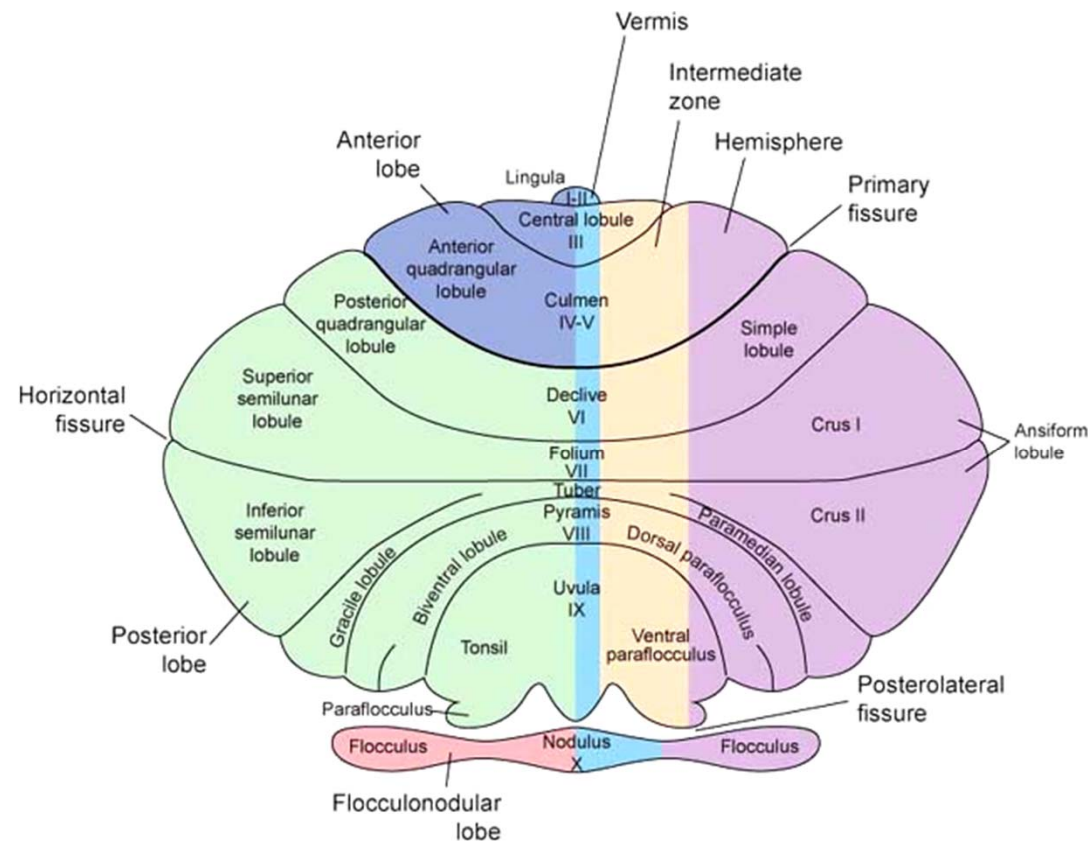
Sensory (ascending) Tracts 感覺神經徑

Fasciculus gracilis 薄束 and Fasciculus cuneatus 楔狀束: proprioception, discriminative touch, two-point discrimination, pressure, and vibrations



Cerebellar Functions: Motor learning and Cognitive functions

1. **Lateral Hemispheres:** Planning Movements
2. Intermediate zones: Adjusting limb movement
3. Vermis: Postural adjustments
4. Flocculus and Vermis: Eyes movements



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Neocerebellar syndrome:

Ataxia 運動失調: ataxic movement, broad based, and drunken gait
*Damages in the vermis or fastigial nuclei

Hypotonia 肌張力不足: loss of muscle tone, sluggish deep tendon reflex

Dysmetria 辨距不良: loss of target in the finger to nose testing

Dysdiadochokinesia 輪替運動障礙:
a clumsy manner in the forearms and the fingers

Asynergy 協同不能: puppet like movements

Dysarthria 口吃:
asynergy involves muscles used in speech. (slurring, scanning speech)

Alcoholic cerebellar degeneration



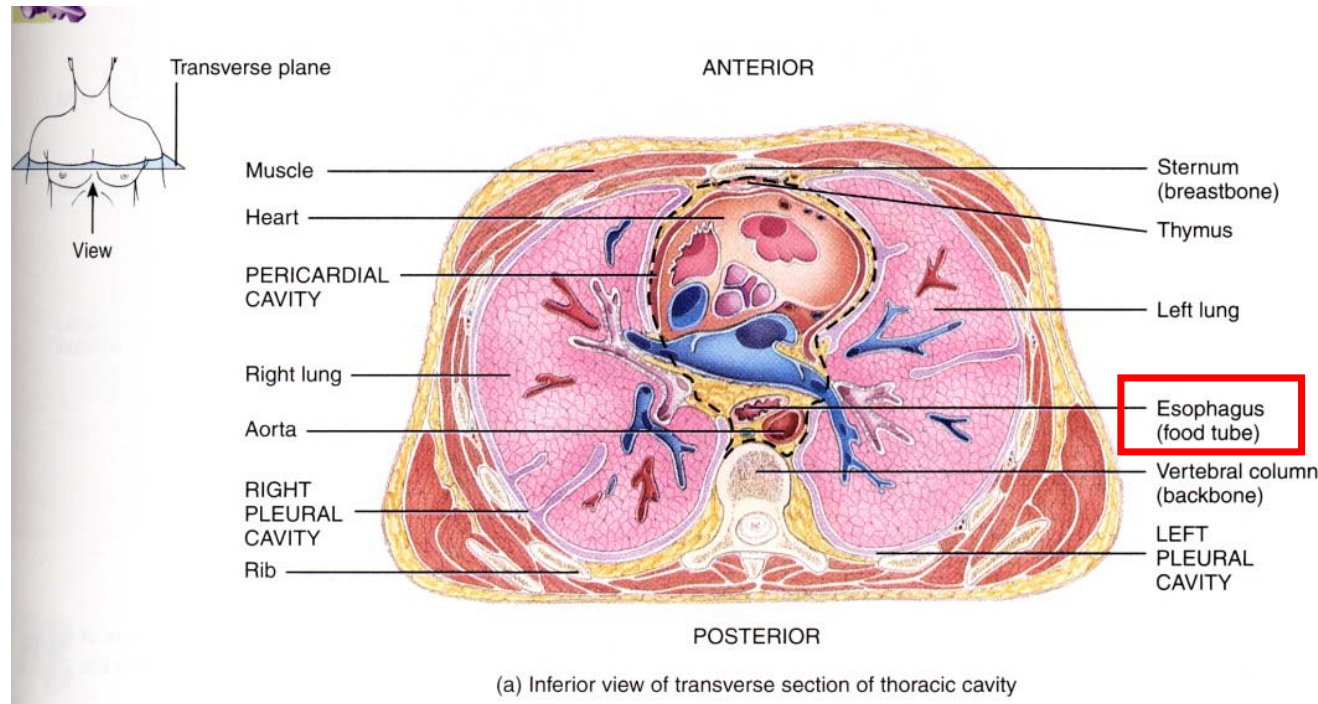
以“國考”重點“曉以大義”!

面對專業訓練所需要之基礎課程，同學學習態度以“學到賺到”!

102年第一次專門職業及技術人員高等考試牙醫師考試分試考試、藥師、醫事放射師、助產師、物理治療師、職能治療師、呼吸治療師、獸醫師考試

代號：1306 類科名稱：呼吸治療師 科目名稱：心肺基礎醫學（包括解剖學、生理學、藥理學）

12. 緊貼在心臟後方的結構是： A.胸腺 B.胸管 C.氣管 D.食道



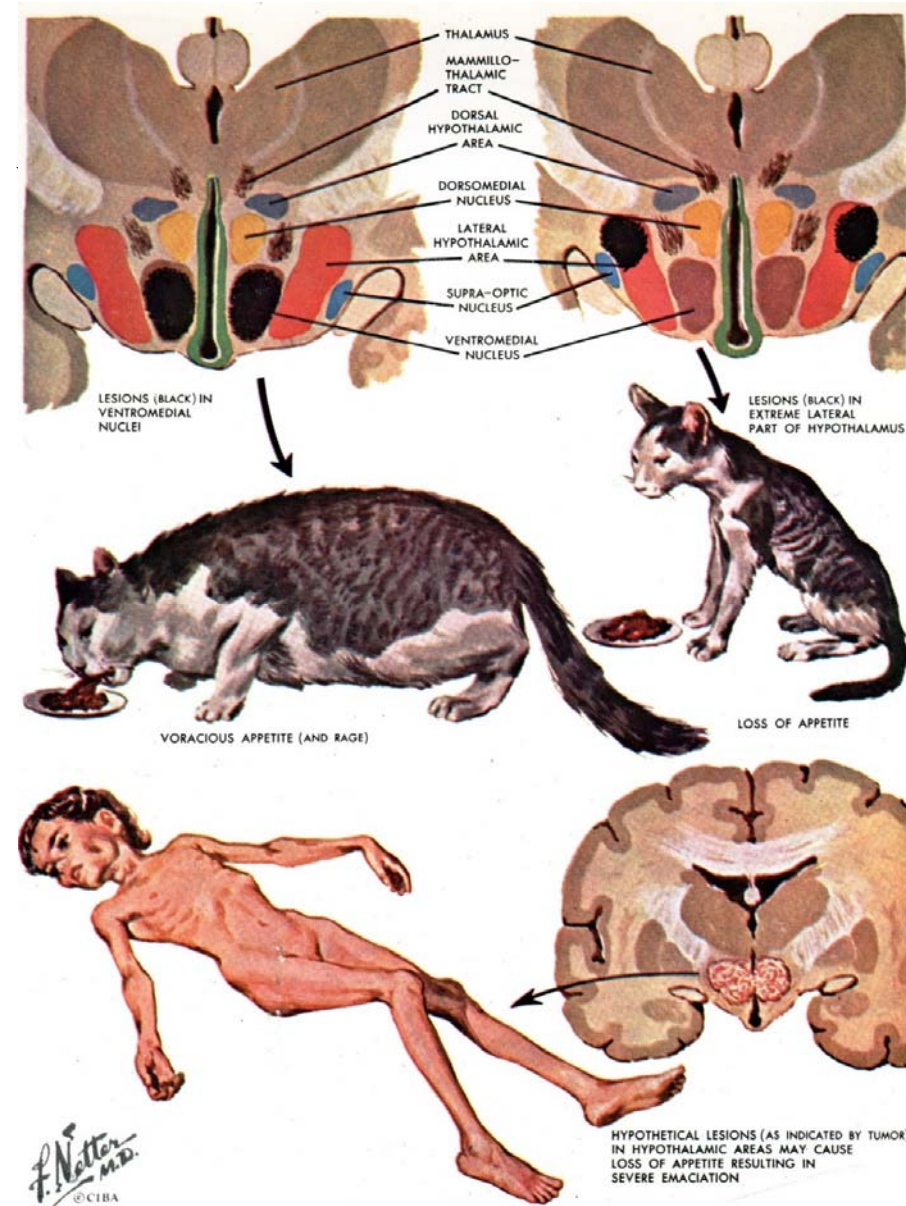
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醫事放射師、助產師、物理治療師、職能治療師、呼吸治療師、獸醫
師考試

代號：1308 類科名稱：醫事放射師 科目名稱：基礎醫學（包
括解剖學、生理學與病理學）

**19.食慾控制中心位於： A.杏仁核（amygdala） B.下
視丘（hypothalamus） C.運動皮質（motor cortex）
D.舌下神經核（nucleus of hypoglossal nerve）**

Feeding (hunger) center 饑餓中樞: Lateral hypothalamic area
Satiety center (飽足中樞): Ventromedial nucleus (VM) (善)



謝謝聆聽
敬請指教

