

常見內科疾病處 置一

Heart disease 心臟疾病

Stroke 中風

Allergy , Asthma 過敏症及氣喘

衛生署 93 年十大死因統計

順位	1975年 國際簡略死因 分類號碼	合 計 死 亡 原 因	死亡 人數	每十萬 人口 死亡率	死亡 百分比 %
		所有死亡原因	133,679	590.28	100.00
1	08 - 14	惡性腫瘤	36,357	160.54	27.20
2	250,251,27,28*	心臟疾病	12,861	56.79	9.62
3	29	腦血管疾病	12,339	54.48	9.23
4	181	糖尿病	9,191	40.58	6.88
5	E47 - E53	事故傷害	8,453	37.33	6.32
6	321	肺炎	5,536	24.44	4.14
7	347	慢性肝病及肝硬化	5,351	23.63	4.00
8	350	腎炎、腎徵候群及腎性病變	4,680	20.67	3.50
9	E54	自殺	3,468	15.31	2.59
10	26	高血壓性疾病	1,806	7.97	1.35
		其他	33,637	148.53	25.16

6/22/2006

First Responder Training

First responder重要性

- 緊急救護人數與日俱增



Heart disease

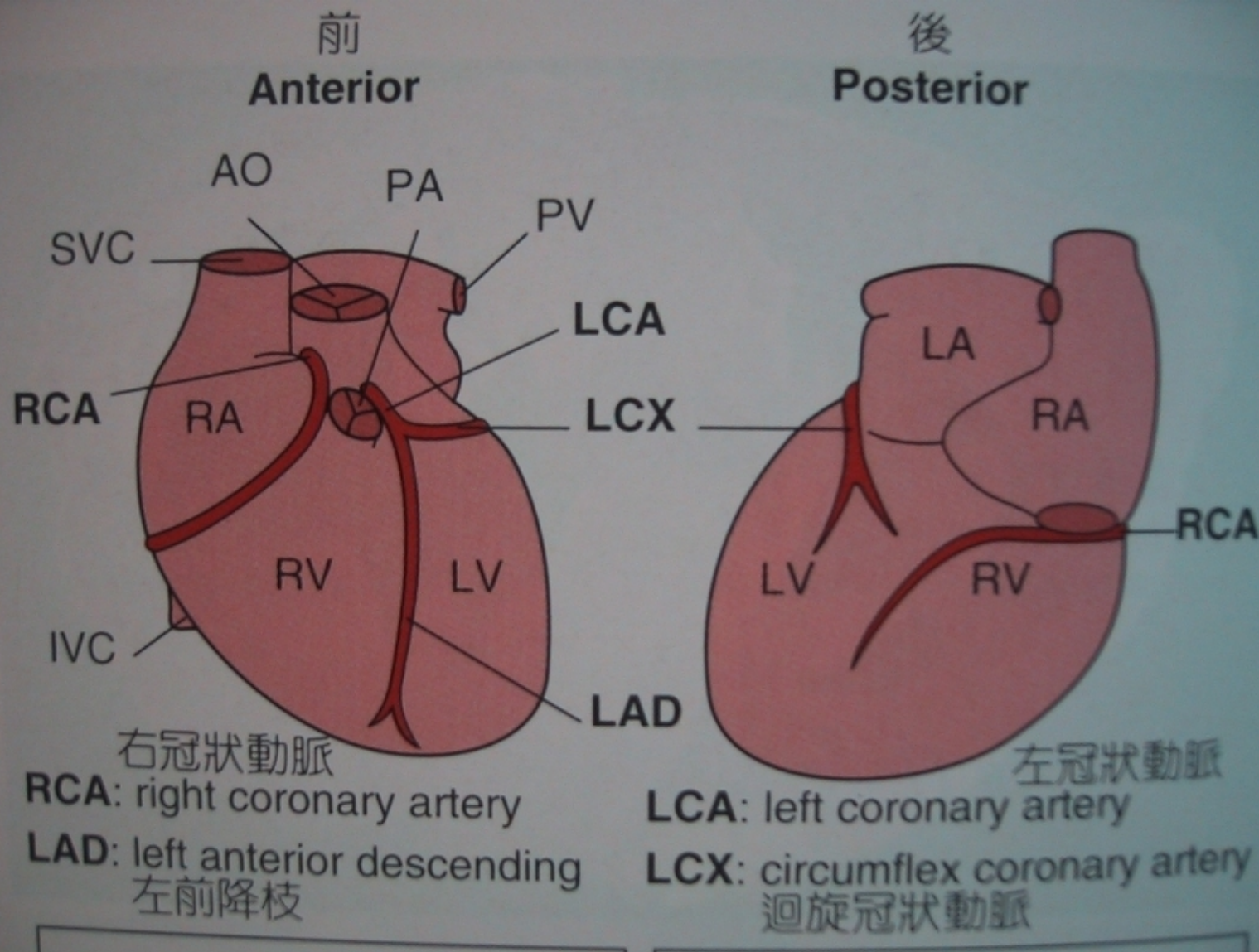
ACS 急性冠心病

Arrhythmia 心律不整

Hypertension 高血壓

急性冠狀動脈症候群(ACS)

- 急性冠狀動脈症候群. (ACS)簡稱急性冠心症.
- 當冠狀動脈因**脂肪物質與血小板**的堆積造成血管**狹窄**、血流不足、甚至阻塞而導致心肌缺血
- 一般常見硬化因素有:**高血壓、糖尿病、抽煙**、血中膽固醇過高、肥胖、脾氣暴躁、過度緊張、忙碌、缺少運動、**老化**等.



- 心臟之能量和氧氣需求主要來源於三條冠狀動脈血液之供應

急性冠心症 症狀

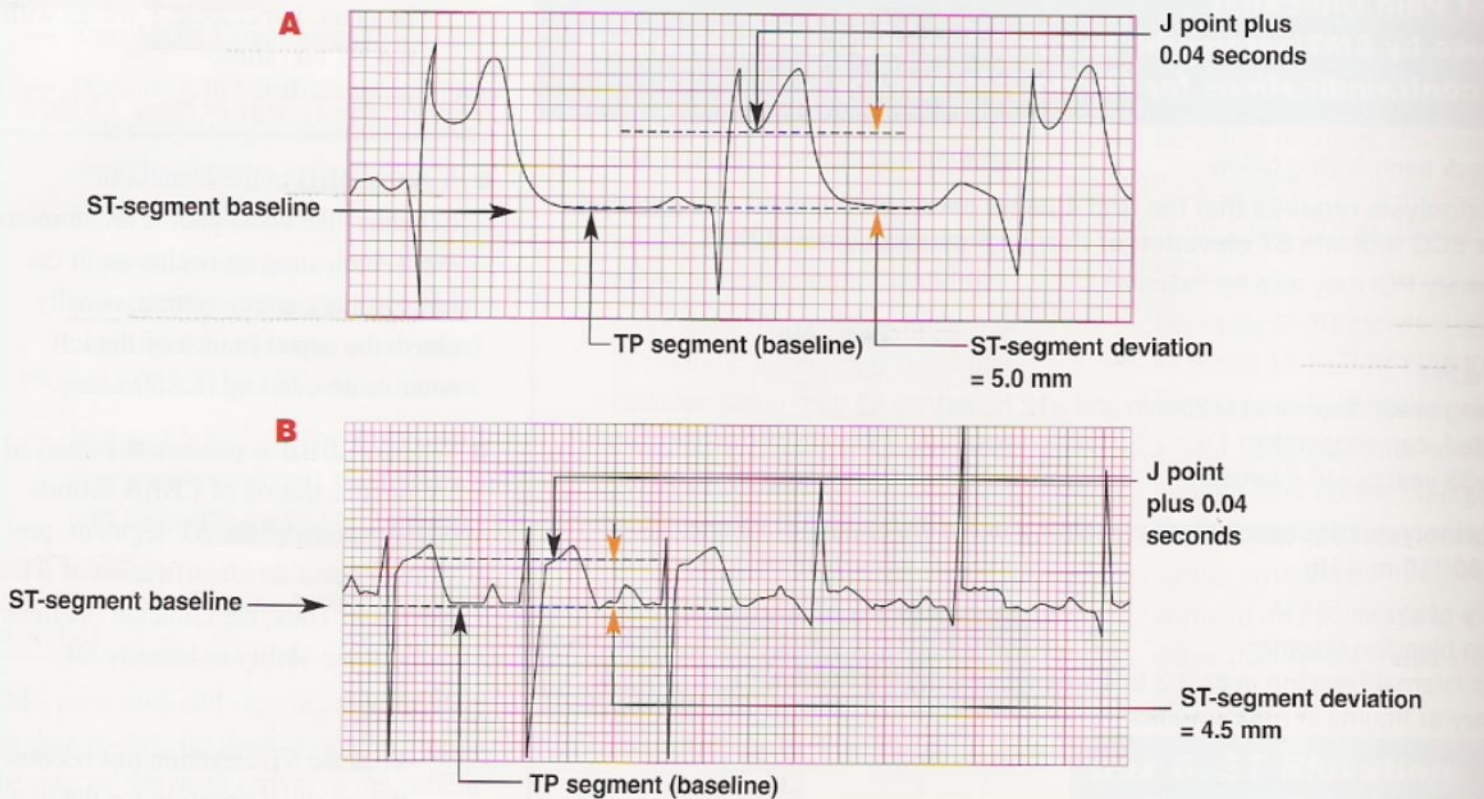
- 1. **疼痛**: 短暫性、約數分鐘, 發生在胸骨下或心前區, 廣泛性壓迫性疼痛, 可能蔓延到手腕、肩部、頸部、背部等.
- 2. **冒冷汗. 臉色蒼白**
- 3. **呼吸困難、胸悶.**
- 4. 可因運動、用力、情緒突變而引發.
- 5. **持續悶痛**, 因可能已發生急性心肌梗塞或其他非梗塞急症, 會造成血壓下降, 如延後就醫, 可能會造成暈倒、休克.

急性冠狀動脈症候群照護原則

- Call for help 119
- 為緩解急性發作, 應立即停止所有活動, 臥床休息、保持安靜
- 開始痛時, 即服用舌下含片 (三硝酸甘油脂) NTG, 每五分鐘重覆含一顆, 若含三顆, 疼痛仍未減輕, 即應就近找大夫做進一步治療.
- 熟悉AED (自動體外電擊器) 的操作
- 儘速送醫做12 lead ECG來判讀.

ST segment elevation 心電圖波形異常

FIGURE 7. How to measure ST-segment deviation. **A**, Inferior MI. ST segment has no low point (it is covered or concave). **B**, Anterior MI.



心律不整 Arrhythmia

- 跳太快，無法有效的心輸出量，空轉
- 跳太慢，無法供應足夠心輸出量
- 寬的或窄的-心房或心室，time
- 有或無P波，該有的消失了
- P波與QRS的關係，搭配出問題，節律不規則
- 是否有ST節段的變化，波形不正常

重要性

- 一個突發性心臟停止的病人，如果在4分鐘內接受基本生命急救術（心肺復甦術），並在8分鐘內提供高級心臟救命術，救活率可高達43%。
- 對心律為心室纖維顫動之突發性心臟停止病人，假如什麼都不做等到醫院才做，10分鐘後，很可能是死路一條。每晚1分鐘急救，存活率下降7~10%。

生命之鏈



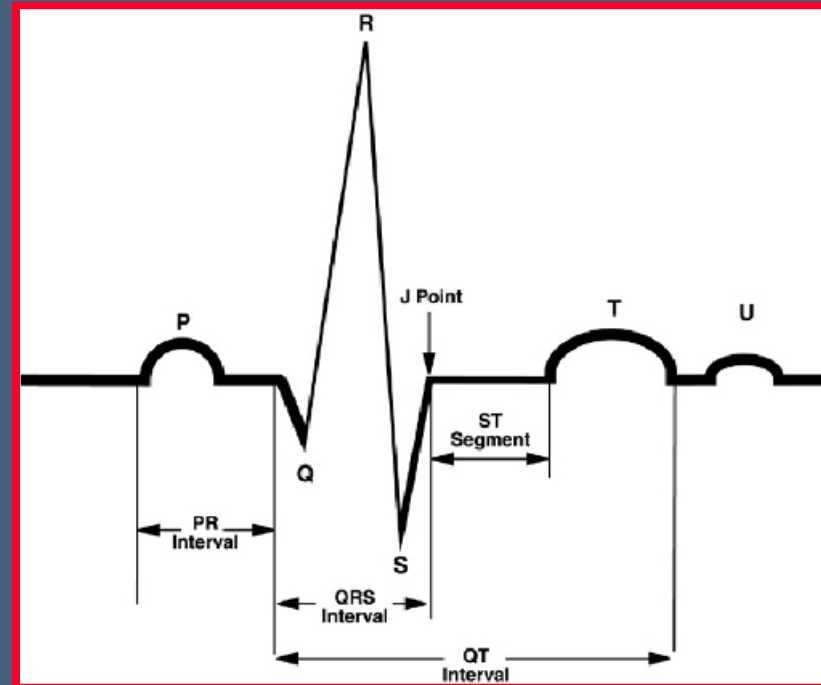
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First Responder Training

12

心電圖

- ECG or EKG ?
 - **E**lectro**c**ardiography
 - 記錄心臟電氣活動。
 - ECG 是比較好的縮寫。



向量與波形

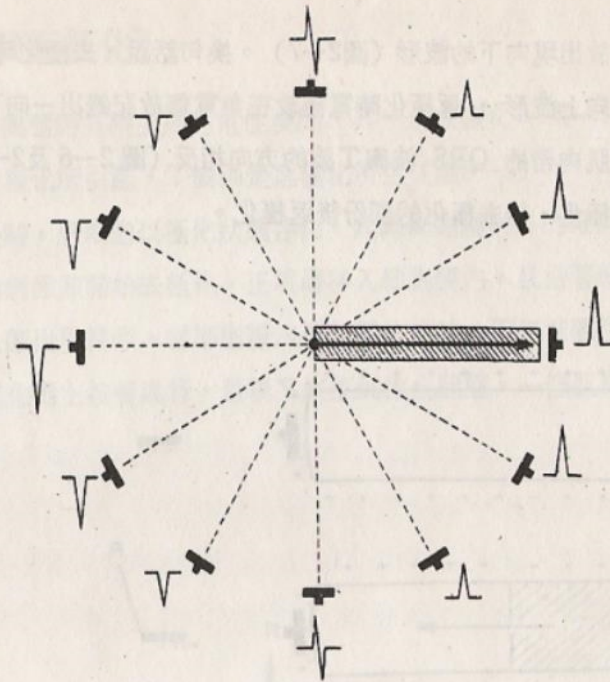
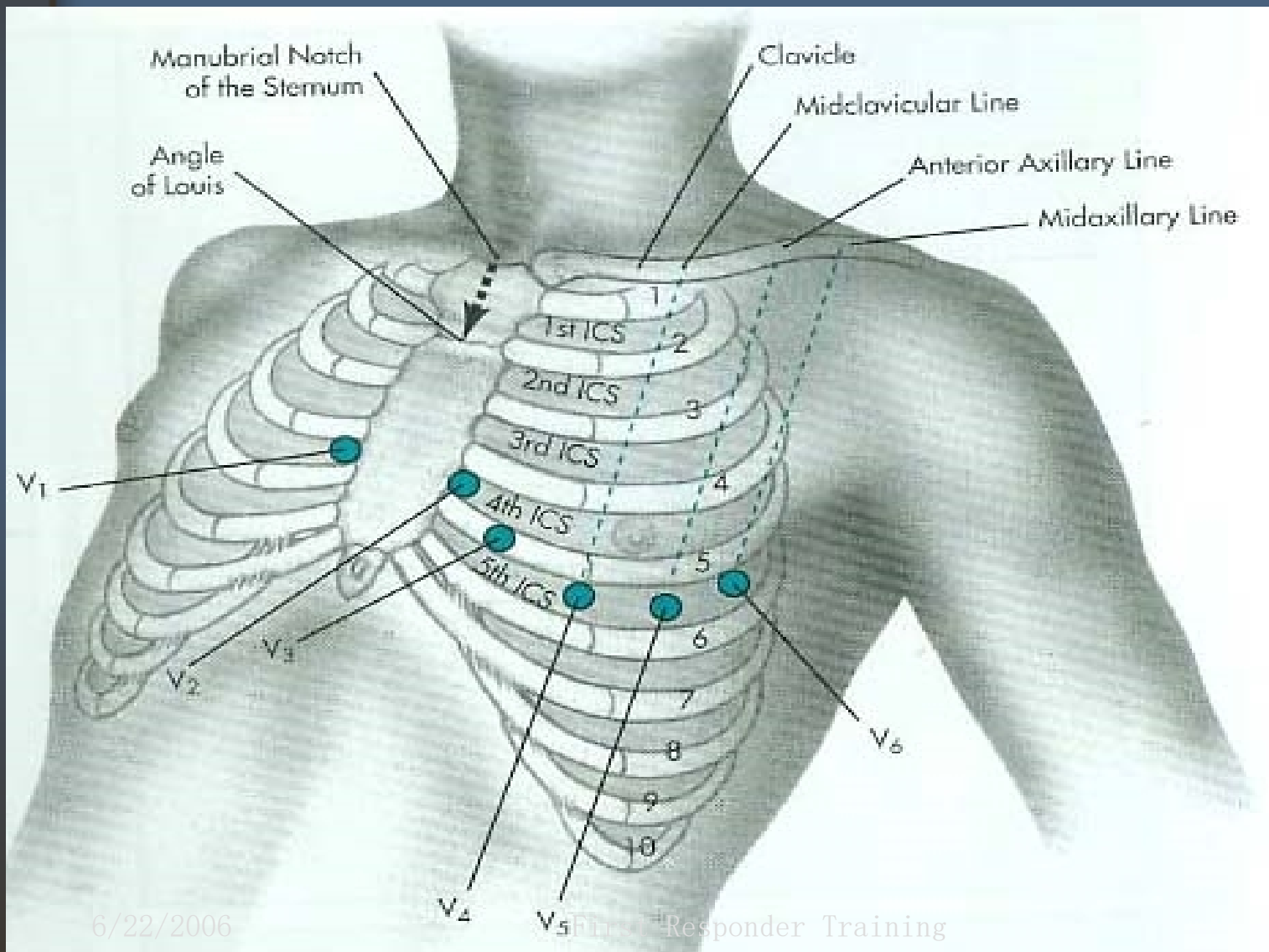
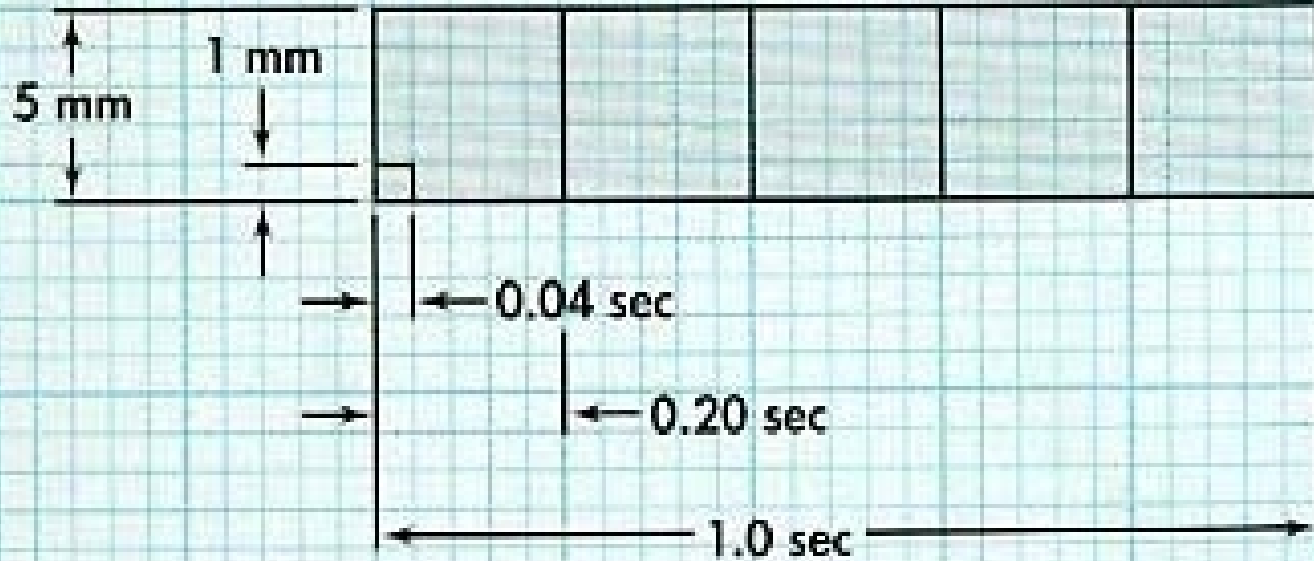


圖2—7：各個不同角度下，肌肉帶去極化時產生不同形式的 QRS 波，此圖對決定電軸之了解甚有幫助。

Precordial leads



速率 (心電圖的紀錄紙)



正常竇性心率, NSR

- NSR: Normal Sinus Rhythm
 - 規則心率
 - 速率正常: 100/min > 心率 > 60/min
 - PR間隔固定且 < 0.20秒
 - 無AV block
 - P波在lead II為正向

心悸VS頻脈

- 心悸：palpitation. 一種心慌的感覺. 自
有心跳感.
- 頻脈：脈搏 $> 100/\text{min}$.

Tachyarrhythmia 心跳

>100/min

- **Narrow**-complex tachycardia. (ectopic atrial tachycardia, MAT, PSVT)
- Stable **wide**-complex tachycardia. VT 心室頻脈
- Af with RVR, **Atrial flutter**. 心房震顫, 撲動
- Stable monomorphic VT, polymorphic VT
- Vf 心室震顫

Bradyarrhythmia 心跳 < 60/min

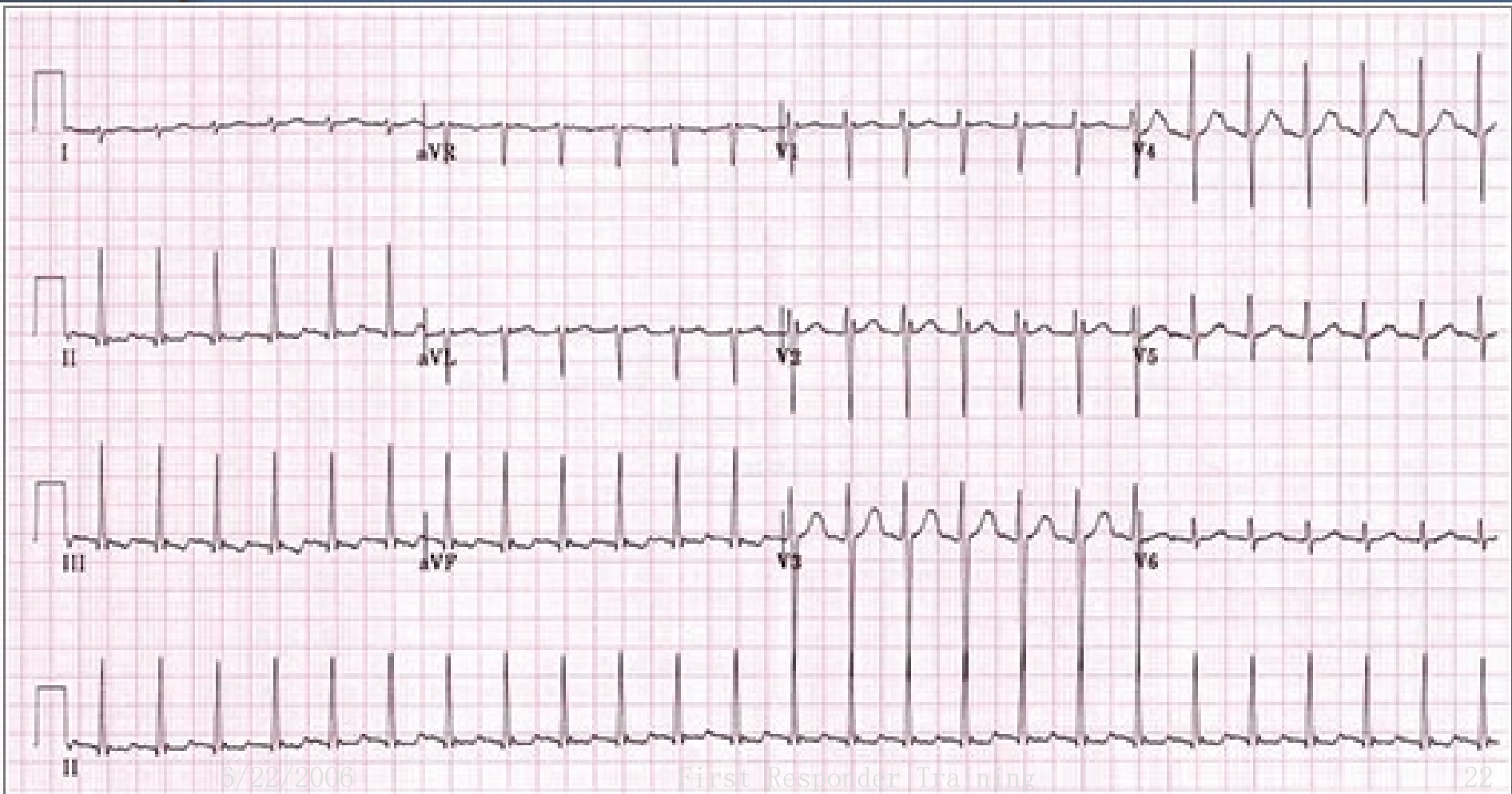
- 傳導阻滯
- First degree AV block
- Second degree AV block type I
- Second degree AV block type II
- Third degree AV block.

PSVT 陣發性心室上心搏過速

- rapid heart rate
- which occurs from time to time (paroxysmal).
- PSVT starts with events taking place above the ventricles. (supra-ventricular)
- No visible P wave. 心電圖看不見P波

HR = 150/min. no visible P wave.

陣發性心室上心搏過速

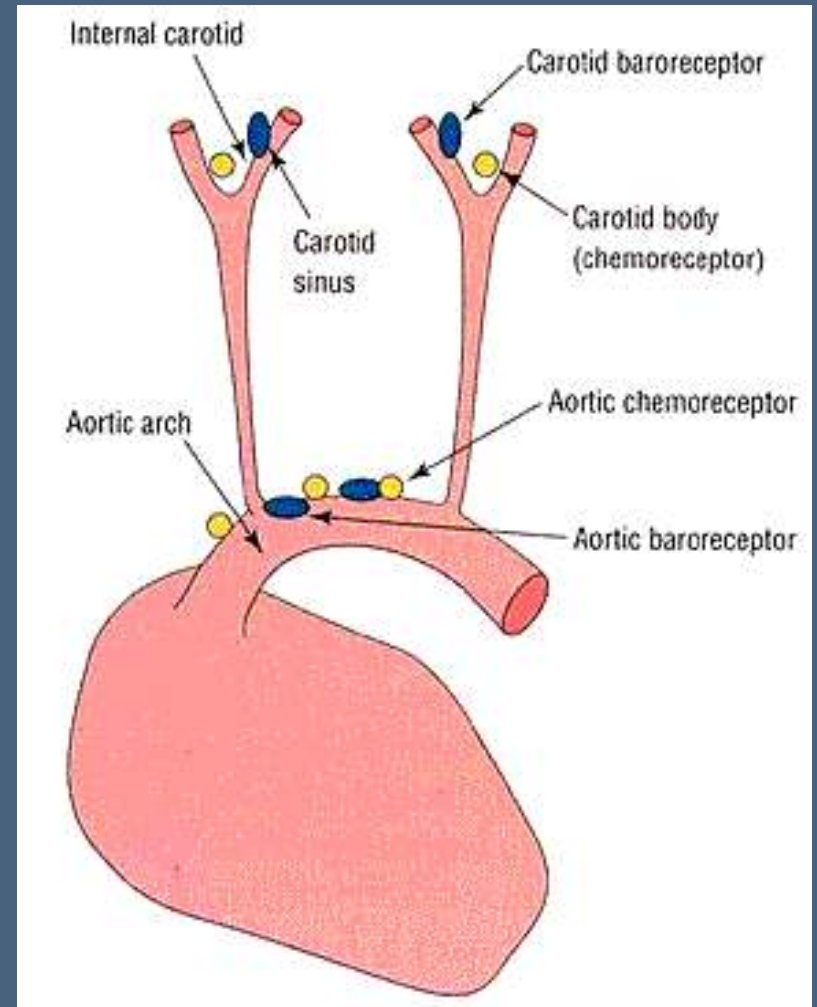


Treatment of PSVT

- Stable: vagal stimulation, **adenosine**.
- 頸動脈竇按摩, 20—25%有效回復正常心率.
- 年輕患者常沒效.
- **preserved heart function**: beta-blocker, CCB, digoxin. DC cardioversion. Antiarrhythmia (procainamide, amiodarone, sotalol.)
- **EF < 40%, CHF** : DC cardioversion, digoxin. Amiodarone, diltiazem.

頸動脈竇按摩

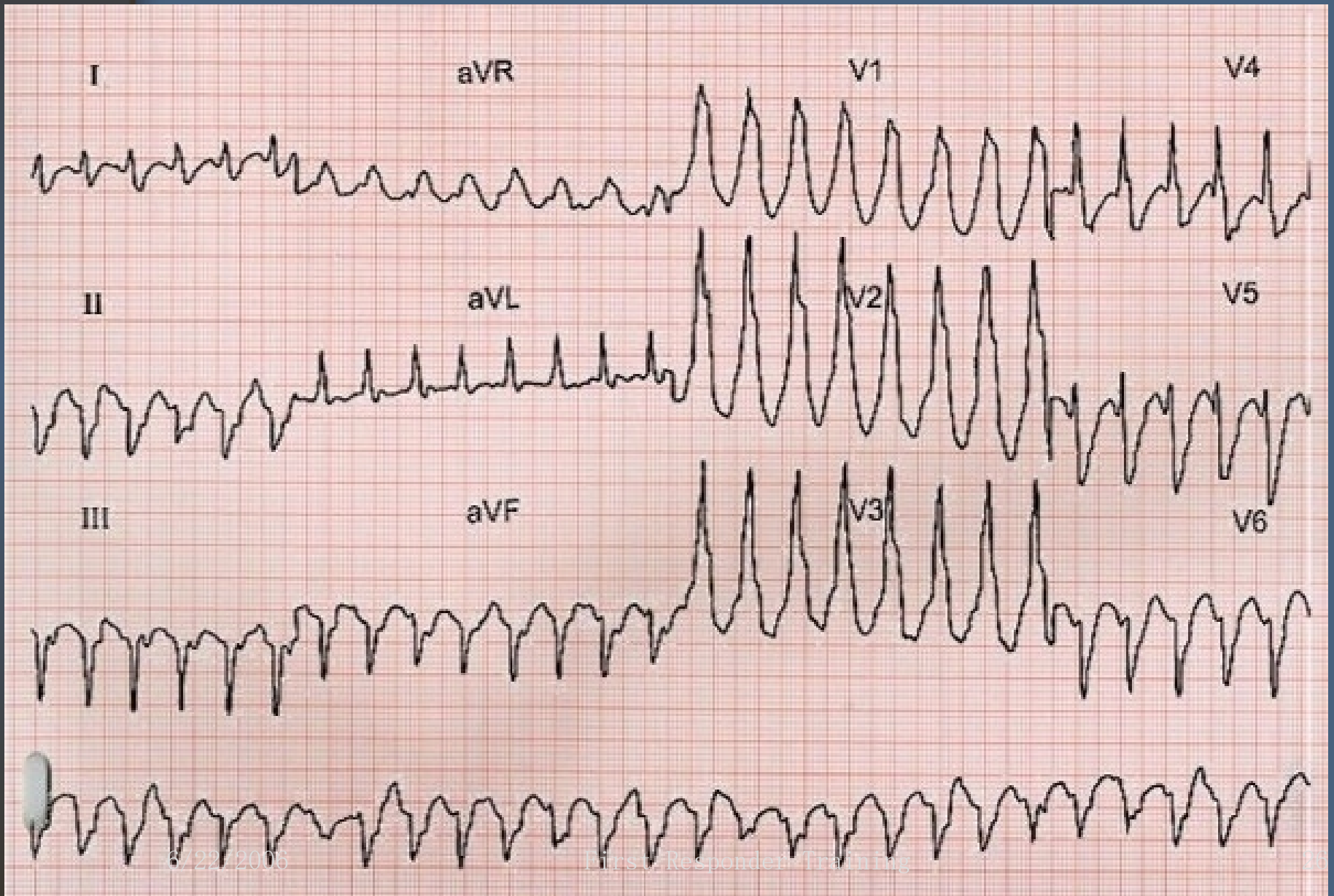
- 不可以兩邊同時按壓
以免中風.



VT 心室震顫

- Rate greater than 100 beats per minute (usually 150–200)
- Wide QRS complexes (>120 ms) 大於三小格
- Presence of atrioventricular (AV) dissociation
- Fusion beats
- 無法有良好的心輸出

VT 心室頻脈心電圖



VT: monomorphic 心室頻脈用藥

- **preserved heart function** : Procainamide, sotalol, Amiodarone, Lidocaine.
- **Poor ejection fraction**: Amiodarone 150 mg IV over 10 minutes. or Lidocaine 0.5—0.75 mg/kg IV push. Then use synchronized cardioversion.

Vf 心室震顫

- pulseless arrhythmia 無脈性心律不整
- irregular and chaotic electrical activity
- loses its ability to function as a pump.
- Sudden loss of cardiac output with subsequent tissue hypoperfusion
- creates global tissue ischemia; 沒

VF is the primary cause of sudden cardiac death (SCD).

- Irregular, chaotic.
- * Loss of cardiac output. Pulse-less.
- brain and myocardium are most susceptible.

ECG: Ventricular Fibrillation



Vf, pulseless VT處置

- Primary ABCD. CPR. + defibrillation.
(360J)
- 持續Vf, 無脈VT : on endo, IV, monitoring. CPR. DDx.
- Bosmin 3—5 minutes/ 1 Amp IV.
- 或 Vasopressin 40IU, 一次.

Af 心房震顫

- **irregular, chaotic**不規則
- ventricular waveforms varying
- from bradyarrhythmia to tachyarrhythmia.
- Irregular RR interval.
- P wave absent. P波消失

Af symptoms

- Sensation of feeling heart beat (palpitations)
- Pulse may feel rapid, racing, pounding, fluttering, or it can feel too slow
- Pulse may feel regular or irregular
- Dizziness, light-headedness 頭暈
- Fainting 昏
- Confusion 意識混淆
- Fatigue 疲乏
- Shortness of breath 喘
- Breathing difficulty, lying down
- Sensation of tightness in the chest 悶

PR 149
QRSD 103
QT 299
QTc 450

--AXES--

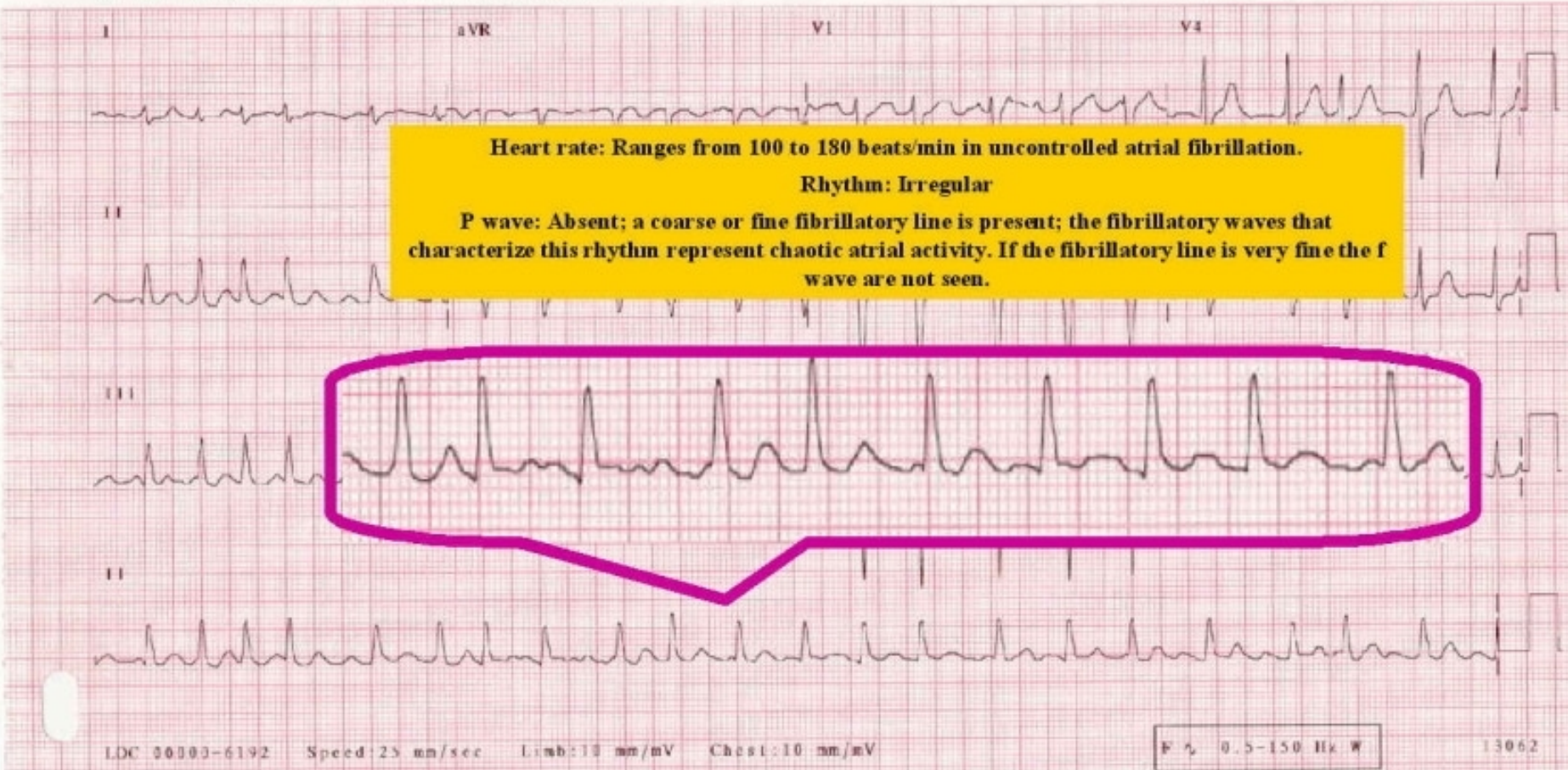
P 219
QRS 86
T 71

Tech 7
Room 1

C-HP709

HP ECG Management System - Unidentified ECGs

PRELIMINARY - MD MUST REVIEW.



Atrial flutter , 心房撲動

- very rapid, regular heart beat.
- starts in the atria, or upper chambers of the heart.

PR 124 (ST). SINUS TACHYCARDIA, RATE 135 - - - - - normal P axis, rate>=100
 QRSD 110 (IVCD1). Borderline INTRAVENTRICULAR CONDUCTION DELAY - - - - - QRS>110
 QT 268 - OTHERWISE NORMAL ECG -
 QTc 402

Δ Atrial flutter ~ 2:1 AV Conduction

--AXES--
 P 106
 QRS 88
 T 250

Tech 5
 Room 1

C-HP709

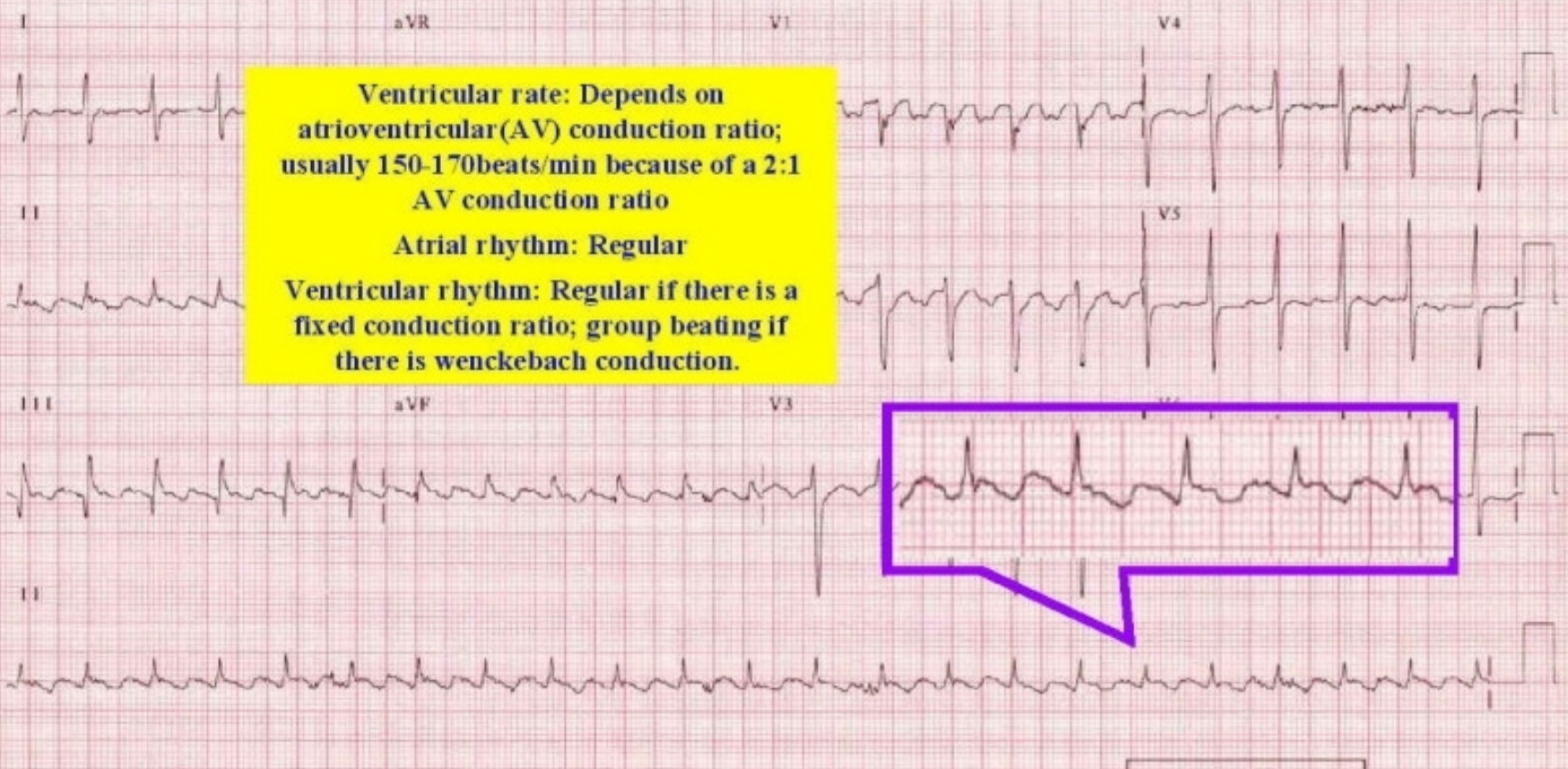
PRELIMINARY - MD MUST REVIEW.

HP ECG Management System - Unidentified ECGs

Ventricular rate: Depends on atrioventricular (AV) conduction ratio; usually 150-170beats/min because of a 2:1 AV conduction ratio

Atrial rhythm: Regular

Ventricular rhythm: Regular if there is a fixed conduction ratio; group beating if there is wenckebach conduction.



LOC 00000-6192 Speed:25 mm/sec Limb:10 mm/mV Chest:10 mm/mV

P 0.5-150 Hz W

14321

First degree AV block 心房心室 傳導阻滯

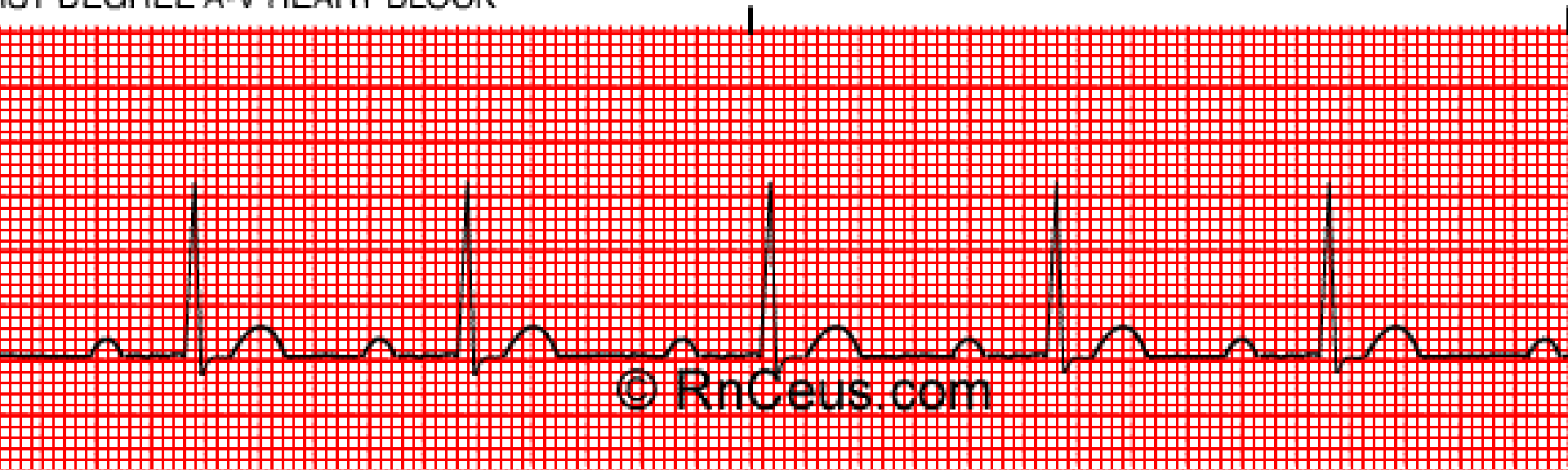
- prolonged conduction in the AV junction; P-R interval is > 0.20 seconds.
- Rhythm is regular 規則心律

Etiology of first degree AV block

- inferior MI, 心肌梗塞
- digitalis toxicity 毛地黃毒性
- hyperkalemia 高血鉀
- increased vagal tone 副交感活性增加
- acute rheumatic fever 風濕熱
- myocarditis. 心肌炎

PR > 0.20 seconds

FIRST DEGREE A-V HEART BLOCK



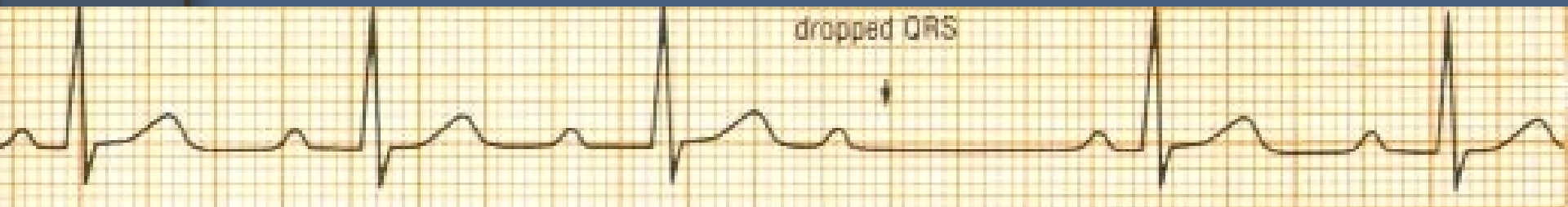
P波與QRS的關係（搭配）

- 1:1 – sinus rhythm
 - PR >0.2 seconds: 1st degree AV block
- 2:1 to 4:1 – atrial flutter
 - P波呈鋸齒狀
- 不規則
 - PR間隔愈來愈長, 然後QRS消失: 2nd type1 AV block
 - PR間隔固定, QRS突然消失: 2nd type2 AV block
- 沒有關係
 - 3rd AV block

Second degree type I

- Type I or Wenckebach:
- P-R interval becomes progressively longer with each cycle until a non-conducted atrial beat occurs.
PR節段漸漸延長
- After the dropped beat the P-R interval is shorter.

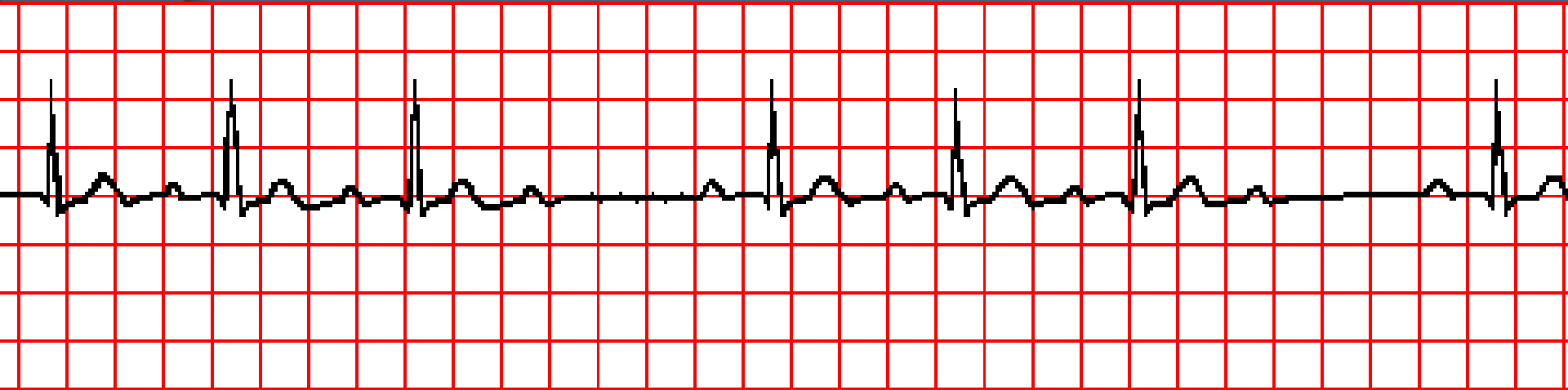
PR 漸漸延長



Second degree type II

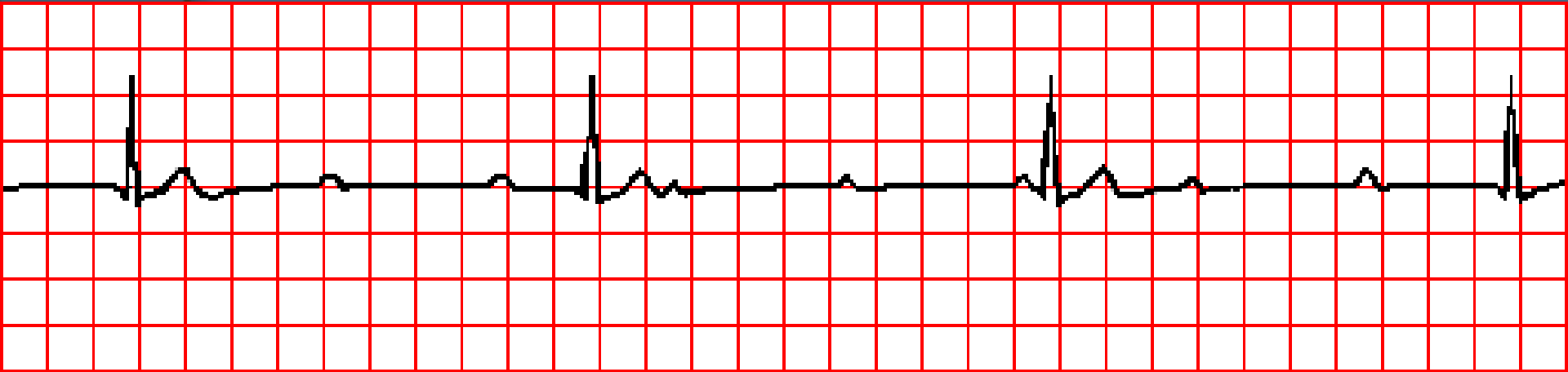
- Constant P-R intervals preceding a non-conducted atrial beat.
- Ventricular rate is irregular.
- Atrial rhythm is regular.
- 固定心房幾跳就有一跳傳不下去心室.

Second degree type II



3rd degree AV block

- 心房和心室各跳各的. 互不相干.



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