



# 中西醫協作計劃研討會 認識中風

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# 何謂中風?

- 西醫:

- 平民版 – Stroke (sudden, severe blow) → brain attack
- 進階版 – Cerebrovascular accident (CVA) [腦血管意外]
- 包含缺血(塞血管)及出血(爆血管)



- 中醫:

- 又稱“卒中”
- 風者，百病之長，得天之象，故其發也暴
- 風者，善行而數變

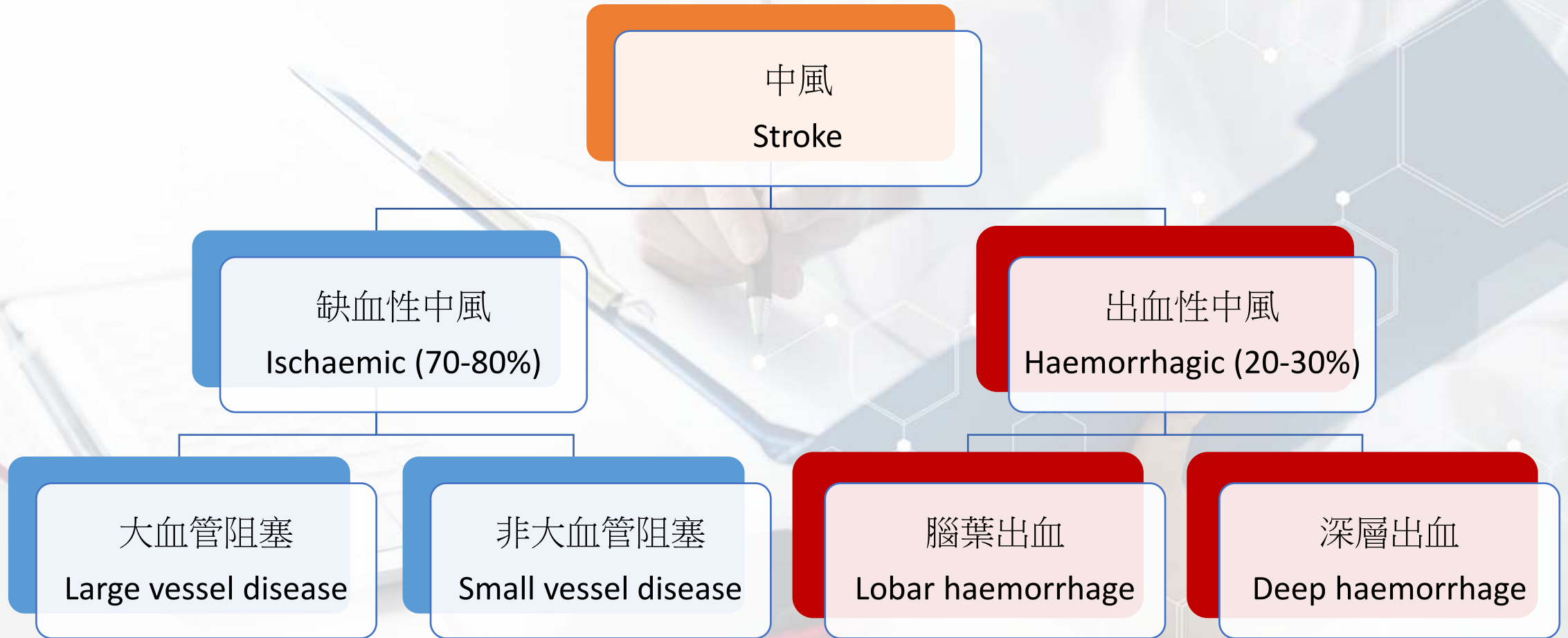


# 何謂中風?

- 病人死亡第二號殺手
  - 全球每四秒有一人死於中風
  - 本港第四大常見死因
- 病人殘疾第三號殺手
- 每人有四分一機會在有生之年中風
- **53%**中風病人少於**70**歲
- 個人、家庭、社會負擔



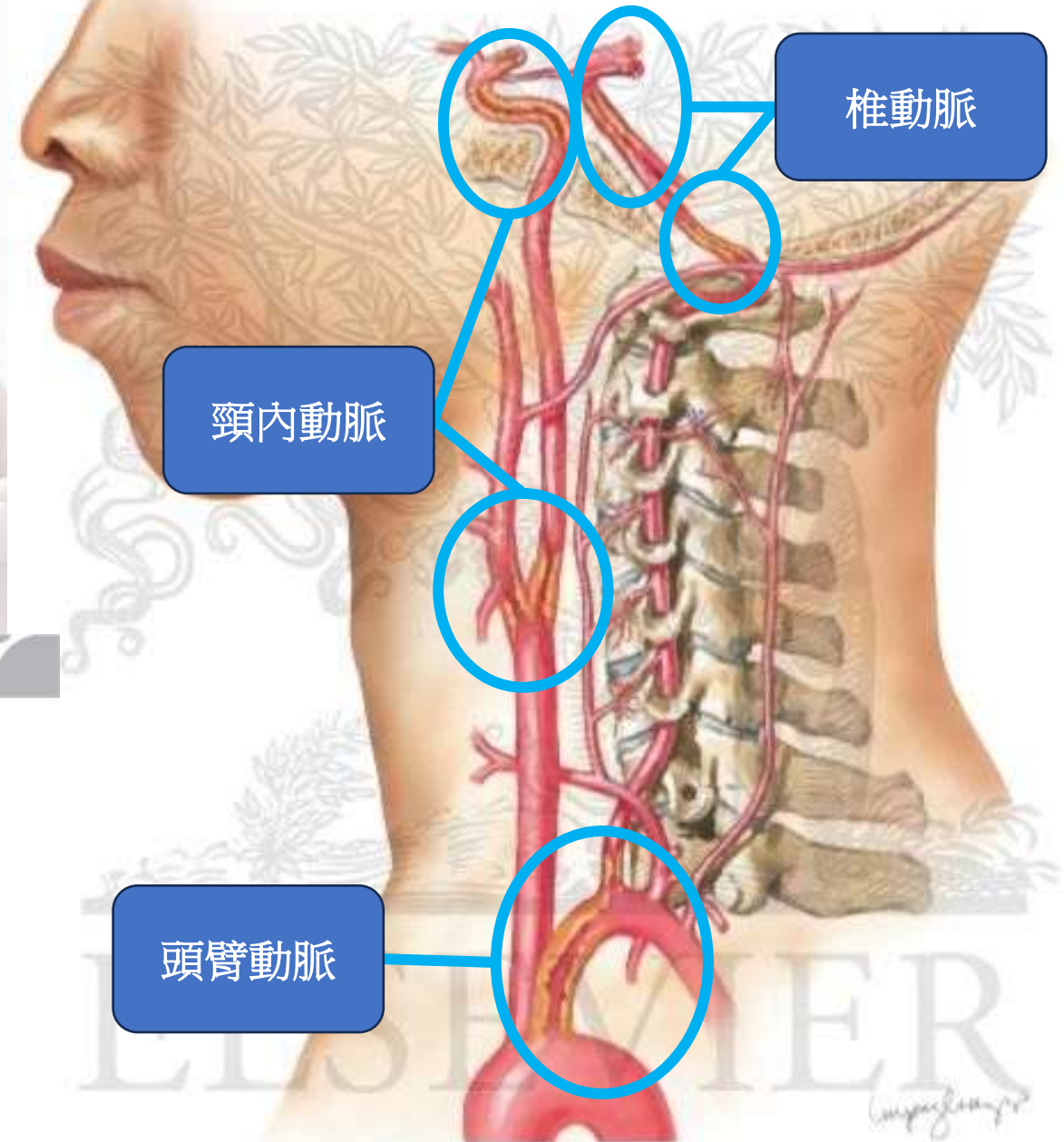
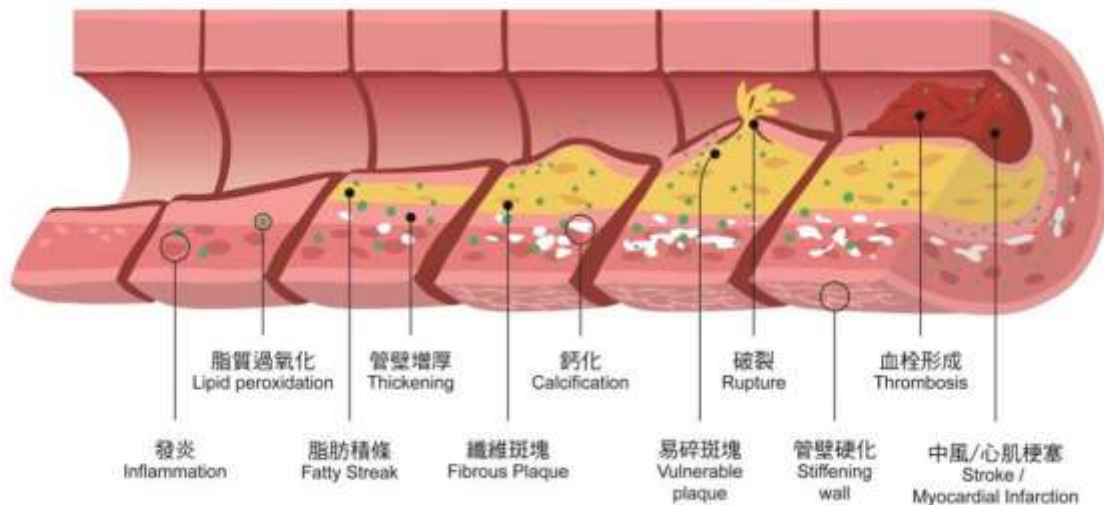
# 中風－分類



# 中風－病理 (缺血)

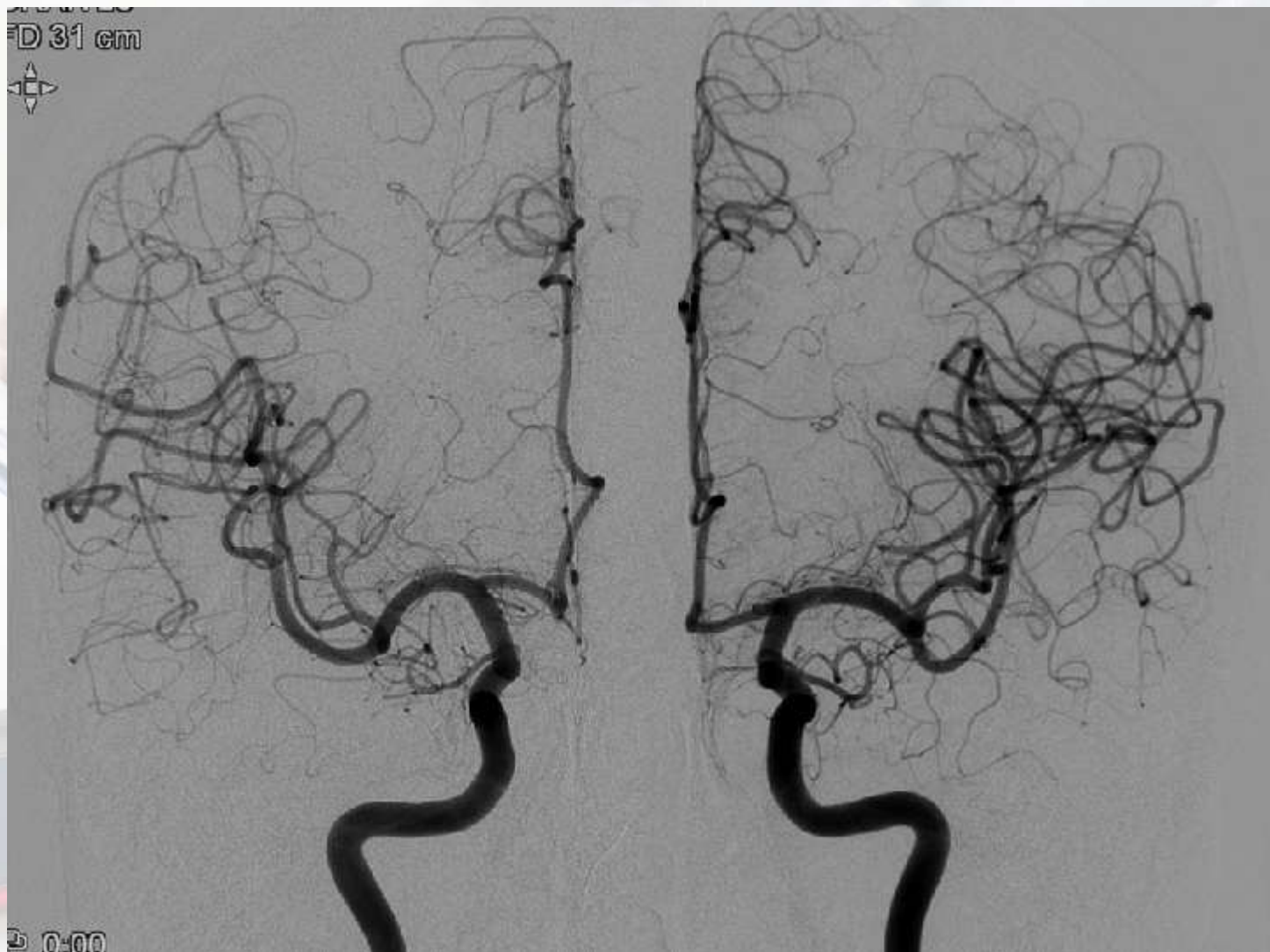
- 大血管粥樣硬化 → 缺血
- 三高（血壓，血脂，血糖）
- 生活習慣（吸煙，飲食，運動，肥胖）

動脈粥樣硬化進展分析



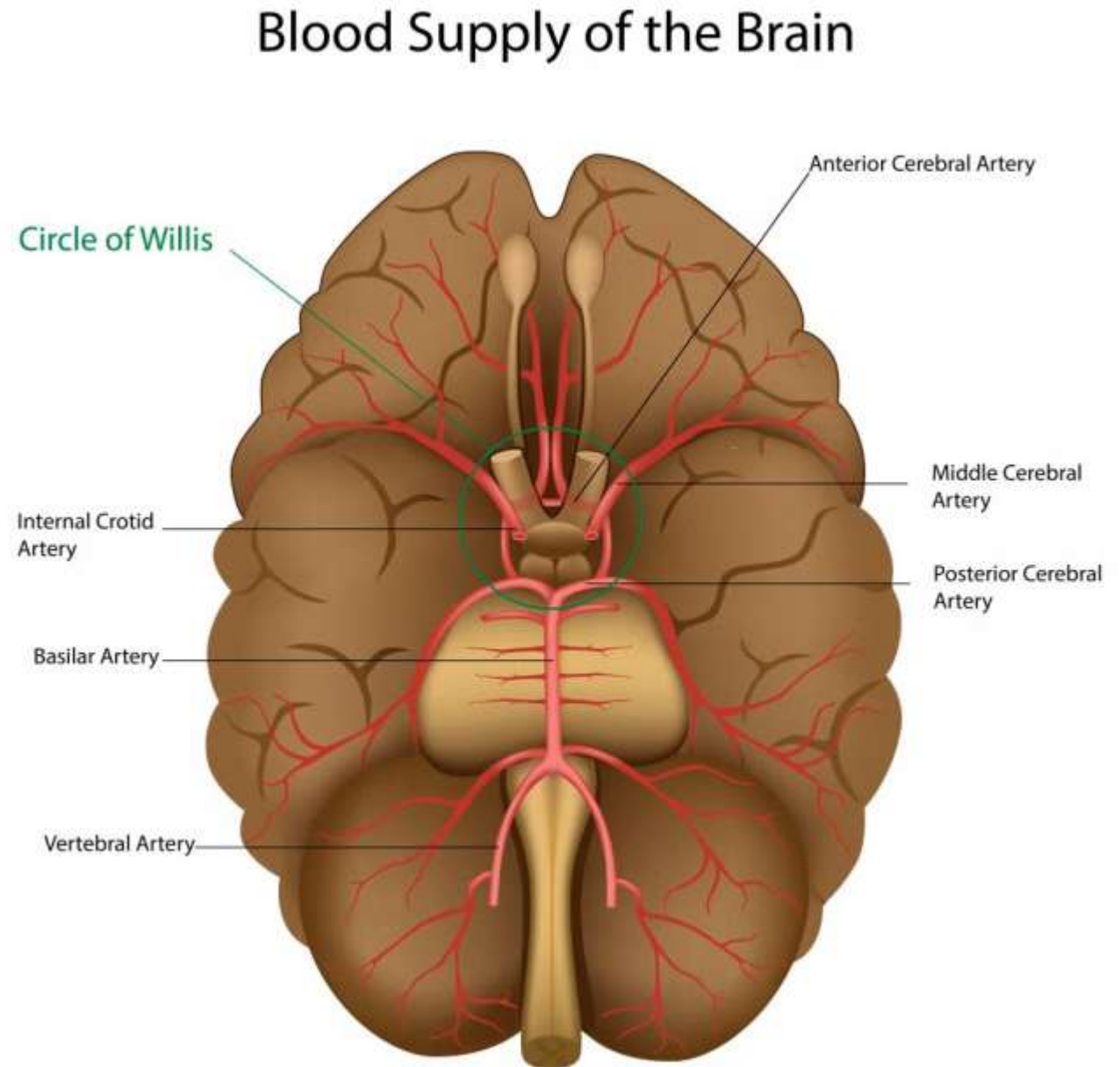
# 中風－病理 (缺血)

- 腦小血管病變
- 三高，生活習慣
- 可引致慢性缺血和出血



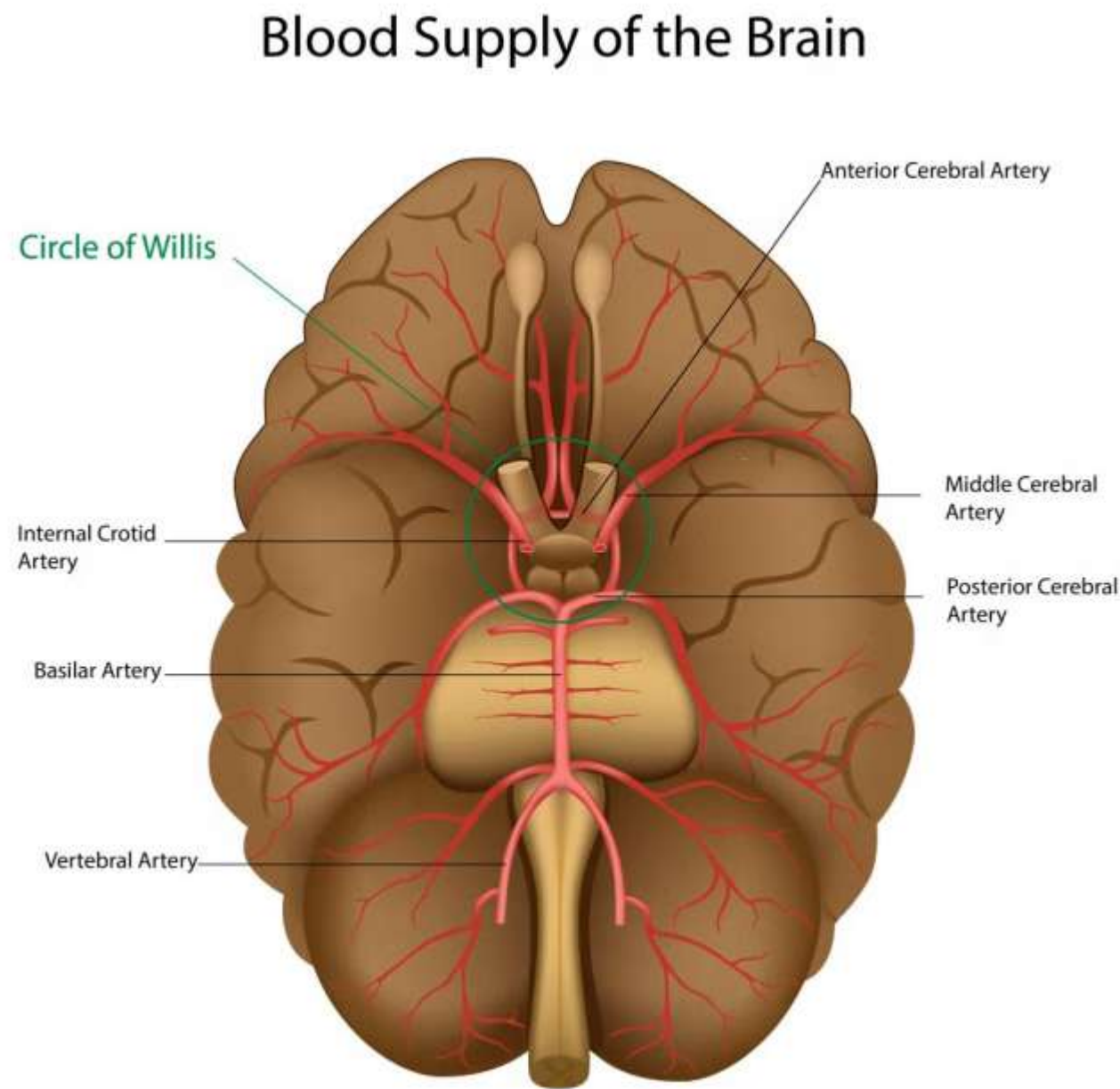
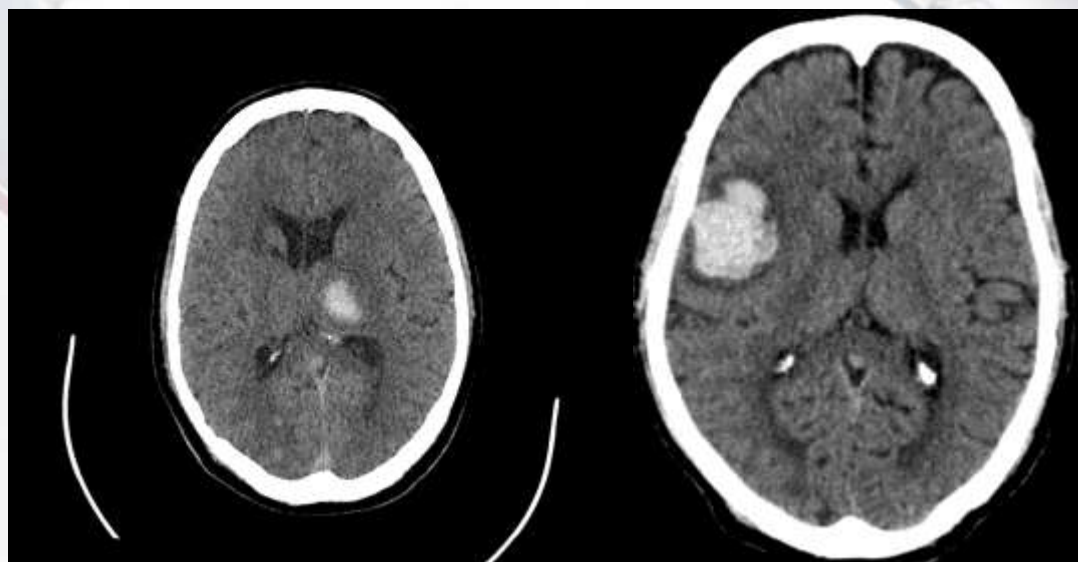
# 中風－病理 (缺血)

- 心源性中風
- 心房顫動→游走血塊→缺血
- 年紀 (80 歲以上人仕 → 12% 機會)
- 其他：心臟衰竭，風濕性心臟病，甲狀腺亢進 . . .

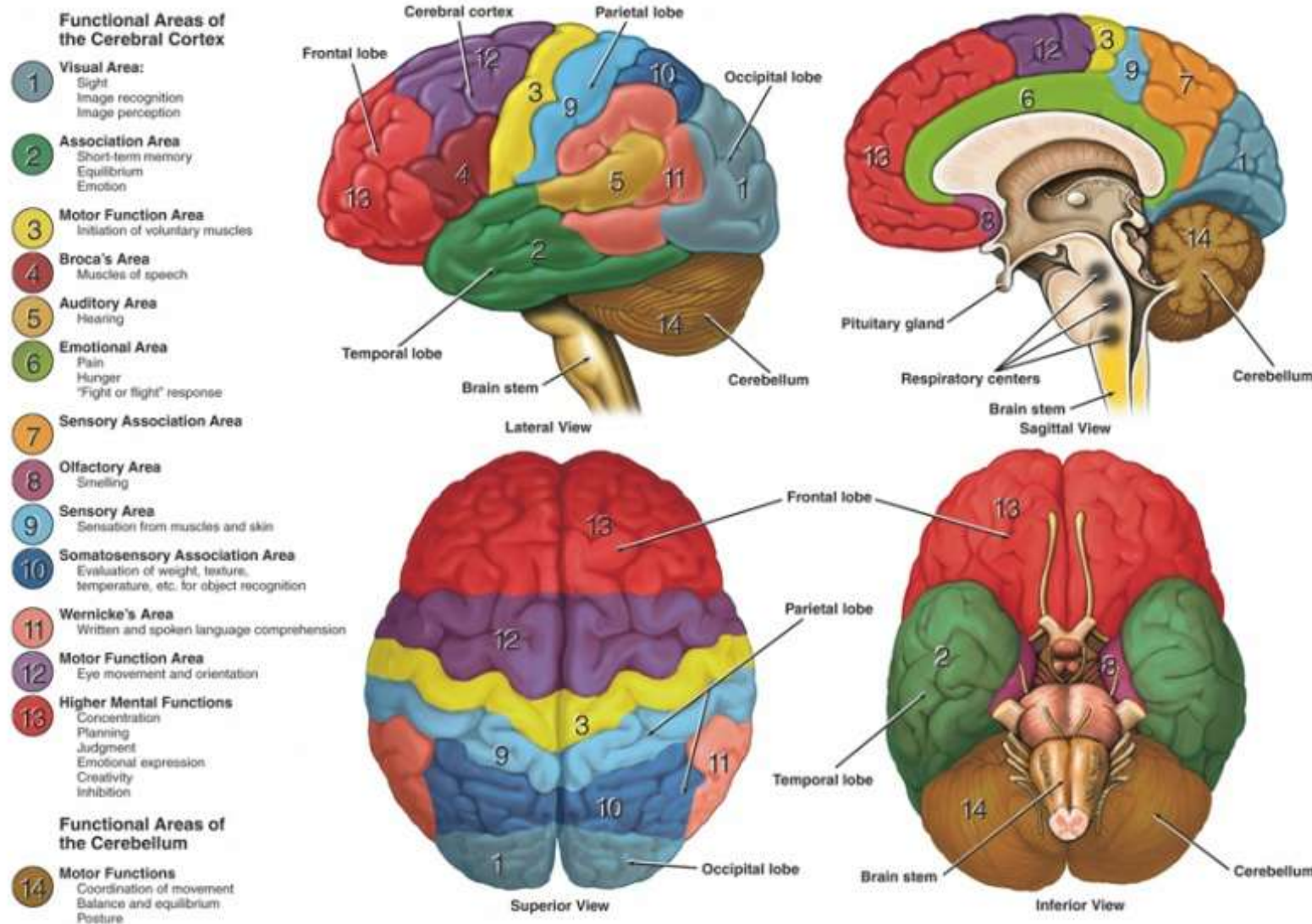


# 中風－病理 (出血)

- 腦溢血(爆血管)
- 高血壓 → 深層小血管
- 血管病變/畸形 → 大/小血管
- 薄血藥物 → 大/小血管



# 中風－癱狀



# 中風－癱狀

- 半身無力
- 半身麻痺
- 失平衡／震顫
- 言語缺陷（咬字、理解、表達）
- 視覺缺陷（重影、視野缺損）
- 高階功能障礙（言語、算術、記憶、空間感、組織執行能力）
- 腦幹功能

# 中風 — 謬誤

- 輕微中風癱狀不只是先兆，可能已是中風本身
- 短暫性腦缺血／小中風也是中風，治療方針和迫切性一樣
- 有明顯癱狀別等待，或錯過黃金治療時間
- 中風不一定包含半身不遂／肢體乏力
- 癱狀以昏厥／短暫失去知覺為主，而無明顯局部神經功能缺損，絕大部分不是中風
- 除中風外，急性神經系統癱狀成因很多



# 中風－診斷

- 院外中風急救口訣



談



表達或說話有困難

笑



面部表情不對稱

用



一邊手腳無力

兵



盡快致電999求助



**WORLD STROKE DAY**  
**SPOT A STROKE**



**TIME**  
Time to call  
for Ambulance  
Immediately

**Issunta**  
Heart & 100 of Love

# 中風－診斷

- 快速評估分流
  - 救護員**院外篩查**，分流高度懷疑中風病人
- 病史
  - 分辨中風或其他成因
  - **確認病發時間**
  - 排除超急性中風治療禁忌症
- 臨牀檢查
  - **分辨發病位置**，或影響治療安排
- 掃描
  - **分辨中風分類**，定立治療方案

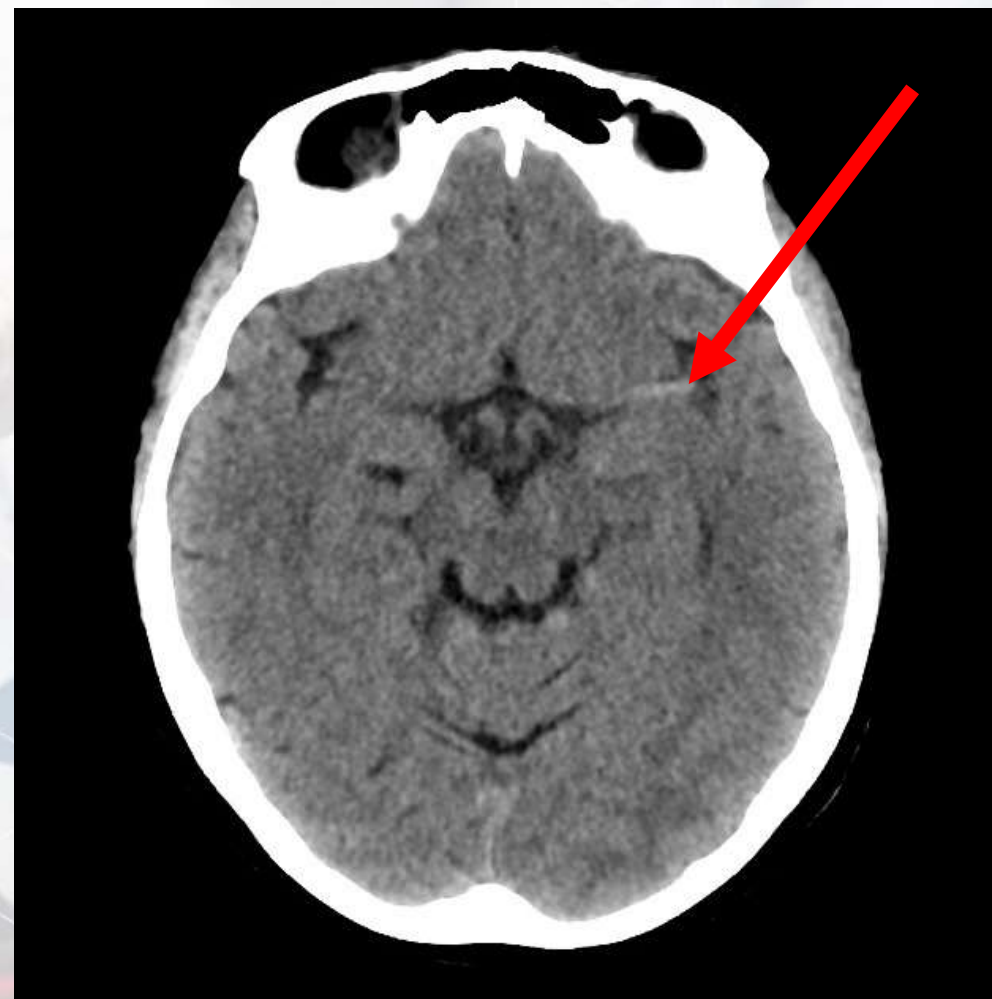
# 中風－診斷

- 院內評估
  - 急症／內科醫生
  - 中風專科護師
- 美國國家衛生研究院  
腦中風量表
- National Institutes of  
Health Stroke Scale  
(NIHSS)

| RUTTONJEE HOSPITAL                                                                   |    | TANG SHIU KIN HOSPITAL                                         |  | Please Affix Gum Label or Use Block Letters |   |                 |   |            |   |
|--------------------------------------------------------------------------------------|----|----------------------------------------------------------------|--|---------------------------------------------|---|-----------------|---|------------|---|
| Department of Medicine & Geriatrics                                                  |    |                                                                |  | Name: _____                                 |   | Hosp. No. _____ |   |            |   |
| Acute Stroke Unit                                                                    |    |                                                                |  | ID No. _____                                |   | Sex: _____      |   | Age: _____ |   |
| National Institutes of Health Stroke Scale                                           |    |                                                                |  | Dept: _____                                 |   | Ward/Bed: _____ |   |            |   |
| NIHSS                                                                                |    | Score                                                          |  | Date and time                               |   |                 |   |            |   |
| 1a. Level of consciousness (LOC)                                                     | 0  | Alert                                                          |  |                                             |   |                 |   |            |   |
|                                                                                      | 1  | Drowsy                                                         |  |                                             |   |                 |   |            |   |
|                                                                                      | 2  | Stuporous (require repeated stimulation)                       |  |                                             |   |                 |   |            |   |
|                                                                                      | 3  | Coma (reflex responses only)                                   |  |                                             |   |                 |   |            |   |
| 1b. LOC – response to 2 question (age, month of year)                                | 0  | Both correct                                                   |  |                                             |   |                 |   |            |   |
|                                                                                      | 1  | One correct (dysarthria, intubated, language barrier)          |  |                                             |   |                 |   |            |   |
|                                                                                      | 2  | None correct                                                   |  |                                             |   |                 |   |            |   |
| 1c. LOC – response to 2 commands (open & close eyes & hands)                         | 0  | Obeys both                                                     |  |                                             |   |                 |   |            |   |
|                                                                                      | 1  | Obeys one                                                      |  |                                             |   |                 |   |            |   |
|                                                                                      | 2  | Obeys none                                                     |  |                                             |   |                 |   |            |   |
| 2. Best Gaze (horizontal EOM by voluntary or Doll's)                                 | 0  | Normal                                                         |  |                                             |   |                 |   |            |   |
|                                                                                      | 1  | Partial gaze palsy                                             |  |                                             |   |                 |   |            |   |
|                                                                                      | 2  | Forced deviation                                               |  |                                             |   |                 |   |            |   |
| 3. Best Visual (introduce visual stimulus/threat to patient's visual field quadrant) | 0  | No visual loss                                                 |  |                                             |   |                 |   |            |   |
|                                                                                      | 1  | Partial hemianopia                                             |  |                                             |   |                 |   |            |   |
|                                                                                      | 2  | Complete hemianopia                                            |  |                                             |   |                 |   |            |   |
|                                                                                      | 3  | Bilateral hemianopia                                           |  |                                             |   |                 |   |            |   |
| 4. Facial Palsy (show teeth, raise eyebrows, squeeze eye shut)                       | 0  | Normal                                                         |  |                                             |   |                 |   |            |   |
|                                                                                      | 1  | Minor asymmetry, decrease nasolabial fold                      |  |                                             |   |                 |   |            |   |
|                                                                                      | 2  | Partial (lower face paralysis)                                 |  |                                             |   |                 |   |            |   |
|                                                                                      | 3  | Complete (upper & lower face paralysis)                        |  |                                             |   |                 |   |            |   |
| 5. Motor Arm (outstretched 90 degree sitting or 45 degree supine x 10 sec)           | 0  | No drift                                                       |  | R                                           | L | R               | L | R          | L |
|                                                                                      | 1  | Drift but doesn't hit bed                                      |  |                                             |   |                 |   |            |   |
|                                                                                      | 2  | Drift down to bed, can't resist gravity                        |  |                                             |   |                 |   |            |   |
|                                                                                      | 3  | No effort against gravity                                      |  |                                             |   |                 |   |            |   |
| 5a. Left Arm                                                                         | 4  | No movement                                                    |  |                                             |   |                 |   |            |   |
| 5b. Right Arm                                                                        | un | Amputation, joint fusion (explain)                             |  |                                             |   |                 |   |            |   |
| 6. Motor Leg (30 degree supine x 5 sec)                                              | 0  | No drift                                                       |  | R                                           | L | R               | L | R          | L |
|                                                                                      | 1  | Drift but doesn't hit bed                                      |  |                                             |   |                 |   |            |   |
|                                                                                      | 2  | Drift down to bed, can't resist gravity                        |  |                                             |   |                 |   |            |   |
|                                                                                      | 3  | No effort against gravity                                      |  |                                             |   |                 |   |            |   |
| 6a. Left Leg                                                                         | 4  | No movement                                                    |  |                                             |   |                 |   |            |   |
| 6b. Right Leg                                                                        | un | Amputation, joint fusion (explain)                             |  |                                             |   |                 |   |            |   |
| 7. Limb Ataxia (finger to nose, heel down shin)                                      | 0  | Absent (coma)                                                  |  |                                             |   |                 |   |            |   |
|                                                                                      | 1  | Upper or lower limb                                            |  |                                             |   |                 |   |            |   |
|                                                                                      | 2  | Upper and lower limb                                           |  |                                             |   |                 |   |            |   |
|                                                                                      | un | Amputation, joint fusion (explain)                             |  |                                             |   |                 |   |            |   |
| 8. Sensory (test with pin)                                                           | 0  | Normal                                                         |  |                                             |   |                 |   |            |   |
|                                                                                      | 1  | Partial loss, aware of touch (aphasia, confused)               |  |                                             |   |                 |   |            |   |
|                                                                                      | 2  | Dense loss, unaware of touch (Coma)                            |  |                                             |   |                 |   |            |   |
| 9. Best Language/ Aphasia (name items, describe picture, read sentence)              | 0  | No Aphasia                                                     |  |                                             |   |                 |   |            |   |
|                                                                                      | 1  | Mild to moderate                                               |  |                                             |   |                 |   |            |   |
|                                                                                      | 2  | Severe                                                         |  |                                             |   |                 |   |            |   |
|                                                                                      | 3  | Mute                                                           |  |                                             |   |                 |   |            |   |
| 10. Dysarthria (repeating listed words)                                              | 0  | Normal articulation                                            |  |                                             |   |                 |   |            |   |
|                                                                                      | 1  | Mild to moderate                                               |  |                                             |   |                 |   |            |   |
|                                                                                      | 2  | Severe, unintelligible or mute                                 |  |                                             |   |                 |   |            |   |
| 11. Neglect/ Extinction and inattention                                              | 0  | No neglect                                                     |  |                                             |   |                 |   |            |   |
|                                                                                      | 1  | Neglect in one (visual, auditory, sensory, spatial/body parts) |  |                                             |   |                 |   |            |   |
|                                                                                      | 2  | Profound neglect in more than one modality                     |  |                                             |   |                 |   |            |   |
| <b>Total score</b>                                                                   |    |                                                                |  | /42                                         |   | /42             |   | /42        |   |
| <b>Assessor</b>                                                                      |    |                                                                |  |                                             |   |                 |   |            |   |

# 中風－診斷

- 缺血性中風最初期，基本電腦掃描(plain CT)可跟正常無異
- 電腦血流灌注掃描(CT perfusion)或磁力共振掃描(MRI)可提早測出缺血位置
- 電腦血管造影掃描(CT angiography)能分辨血管阻塞位置



# 中風－治療

- 時間 = 金錢
- 時間 = 腦細胞
- 腦細胞 = 金錢
- 治療發展主要針對缺血性中風



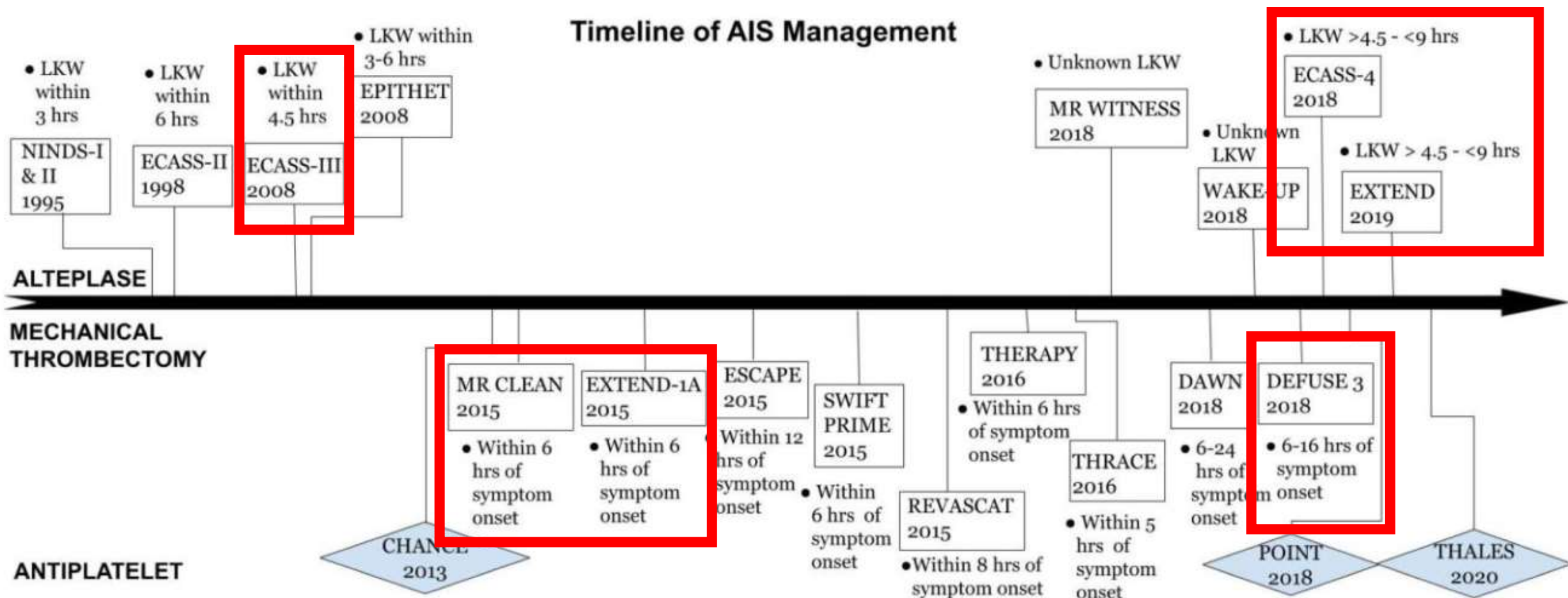
# 中風－治療

- 時間就是腦細胞
- 每人有**22,000,000,000**腦細胞
- 中風病人每分鐘流失約**2,000,000**腦細胞

## Estimated Pace of Neural Circuitry Loss in Typical Large Vessel, Supratentorial Acute Ischemic Stroke

|            | Neurons Lost | Synapses Lost | Myelinated Fibers Lost | Accelerated Aging |
|------------|--------------|---------------|------------------------|-------------------|
| Per Stroke | 1.2 billion  | 8.3 trillion  | 7140 km/4470 miles     | 36 y              |
| Per Hour   | 120 million  | 830 billion   | 714 km/447 miles       | 3.6 y             |
| Per Minute | 1.9 million  | 14 billion    | 12 km/7.5 miles        | 3.1 wk            |
| Per Second | 32 000       | 230 million   | 200 meters/218 yards   | 8.7 h             |

# 中風－治療



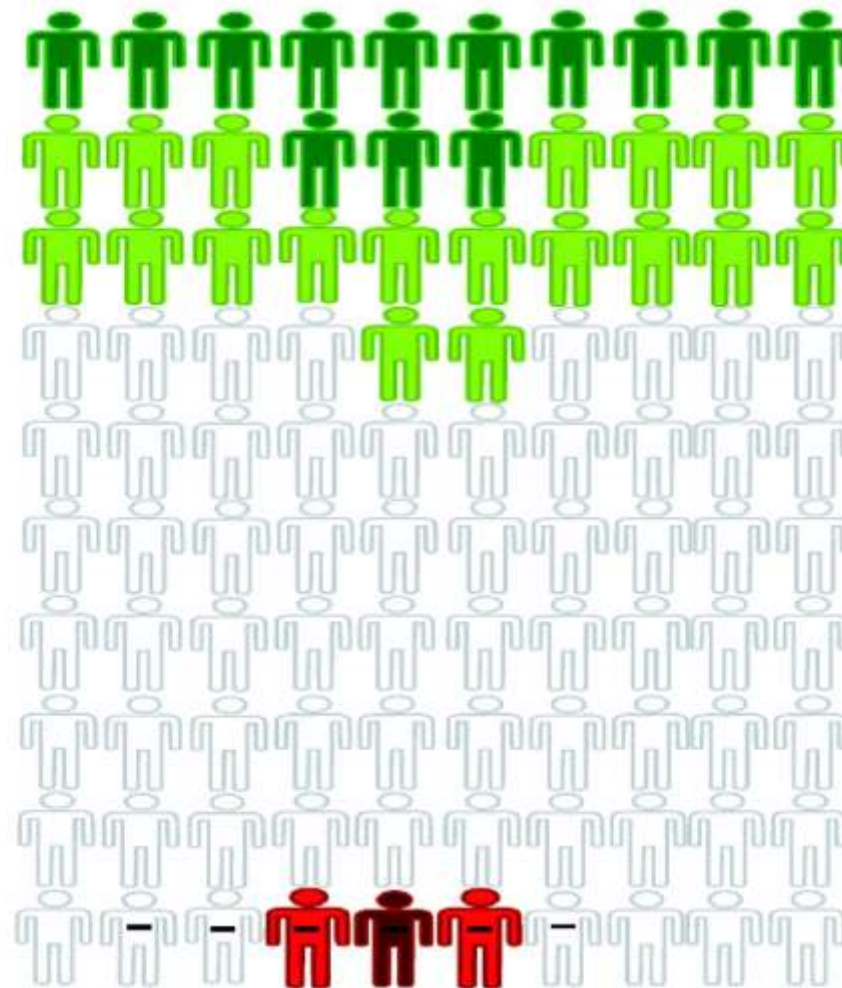
# 中風－治療

- 血栓溶解治療:
- Intravenous thrombolysis
- 靜脈注射
- 黃金4.5小時
- 延長時間窗9-24小時
- 輕重症皆適用
- 可配合手術使用
- 到院至溶栓時間目標：60分鐘



# 中風－治療

- 血栓溶解治療:
- 治療越早效果越好
- 1/3病人明顯好轉
- 2/3病人不影響病情
- 1/20病人出現嚴重出血



Changes in final outcome as a result of treatment:

- Normal or nearly normal
- Better
- No major change
- Worse
- Severely disabled or dead

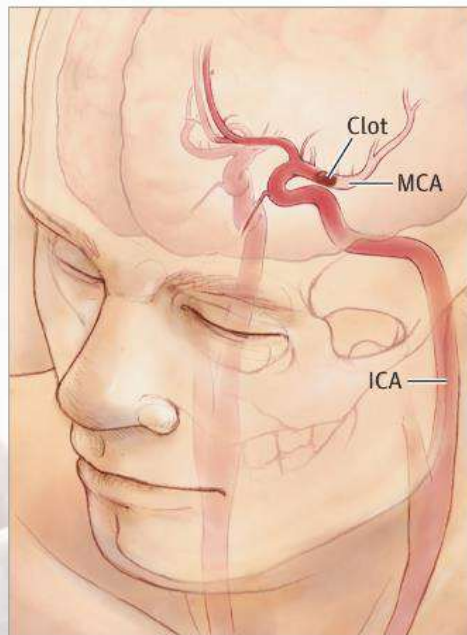
Early course:

- No early worsening with brain bleeding
- Early worsening with brain bleeding

# 中風－治療

- 動脈介入取栓術:
- Endovascular thrombectomy
- 微創血管手術
- 黃金6小時
- 延長時間窗16-24小時
- 大血管栓塞重症適用
- 到院至下針時間目標：90分鐘

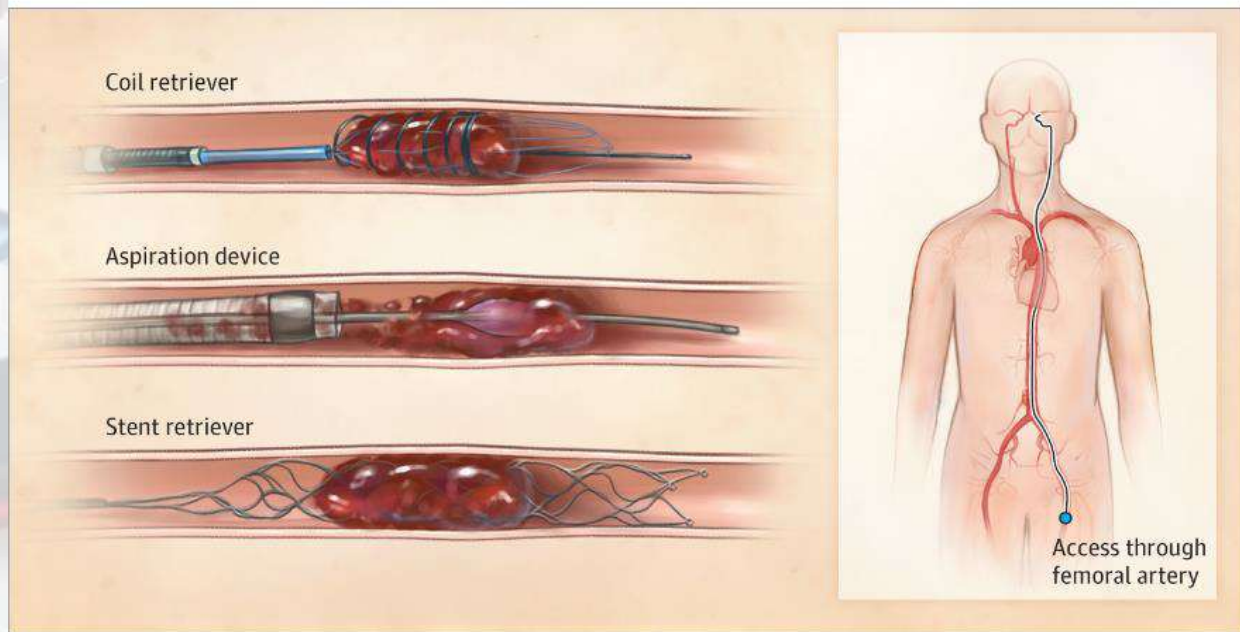
A Left MCA occlusion



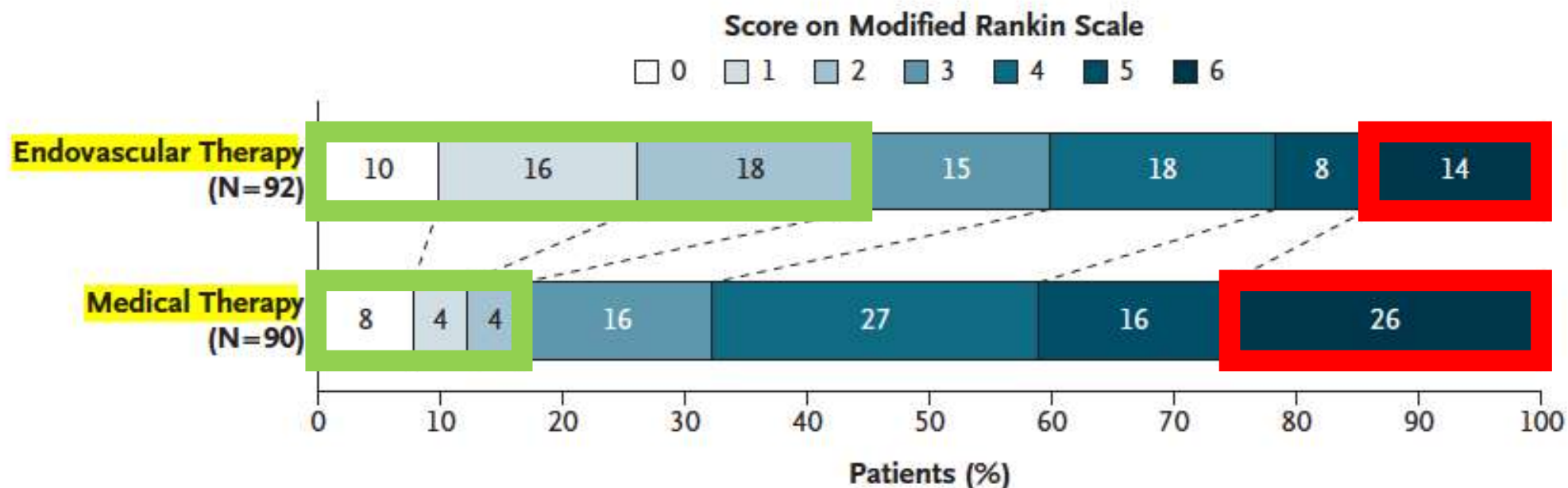
B Cerebral angiogram before (left) and after (right) mechanical thrombectomy of a proximal artery occlusion in the left MCA



C Mechanical thrombectomy devices



# 中風－治療



**Figure 2. Scores on the Modified Rankin Scale at 90 Days.**

Patients in the **endovascular-therapy group** received endovascular therapy plus standard medical therapy. Patients in the **medical-therapy group** received standard medical therapy alone. Scores on the modified Rankin scale range from 0 to 6, with 0 indicating no symptoms, 1 no clinically significant disability, 2 slight disability, 3 moderate disability, 4 moderately severe disability, 5 severe disability, and 6 death. There was a **significant difference favoring the endovascular-therapy group over the medical-therapy group** in the **overall distribution of scores** (unadjusted common odds ratio, 2.77; 95% CI, 1.63 to 4.70;  $P < 0.001$ ).

# 中風－治療

- 口服藥：
  - 抗血小板藥（亞士匹靈）
  - 抗凝血藥（新型薄血藥，華法林）
  - 血壓藥
  - 糖尿藥
  - 膽固醇藥
- 檢測及處理其他少見的引起中風因素



# 中風－治療

- 總括超急性治療效果（良好水平）：
- 口服藥 — **~ 15%**
- 溶栓 — **~ 30%**
- 動脈介入 — **~ 45%**

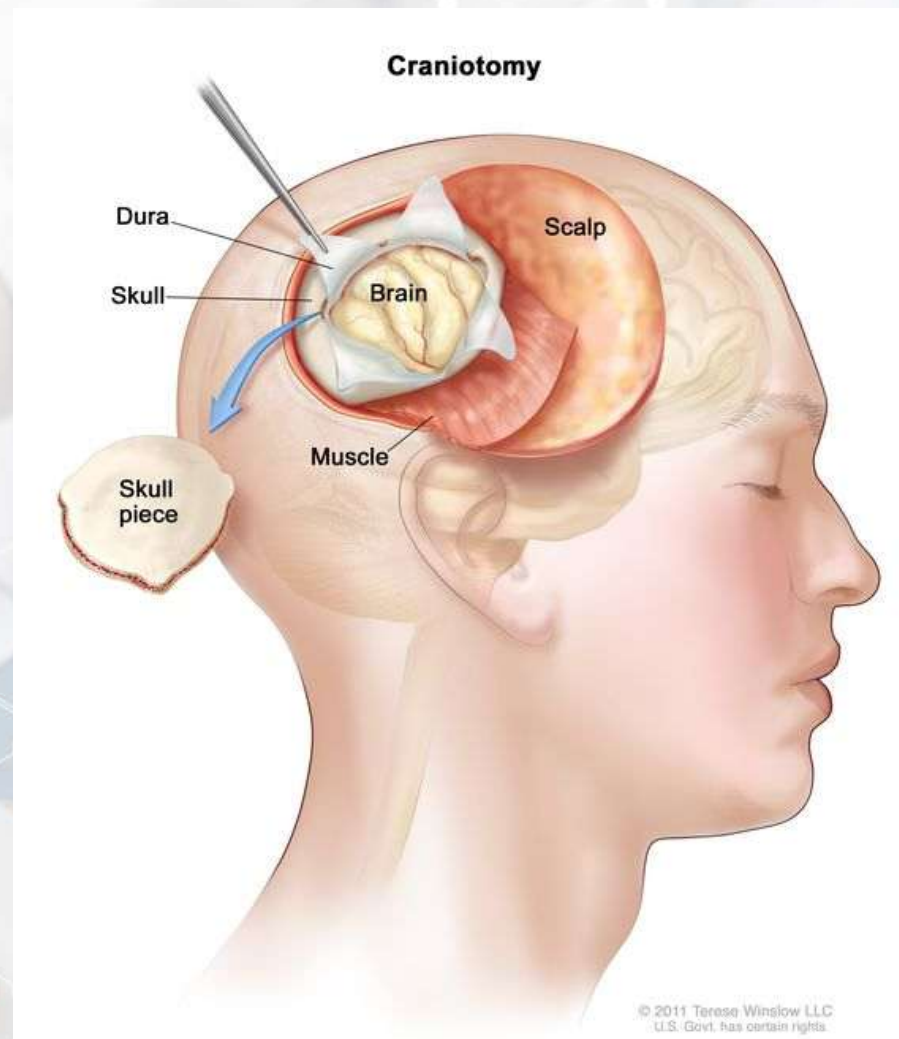
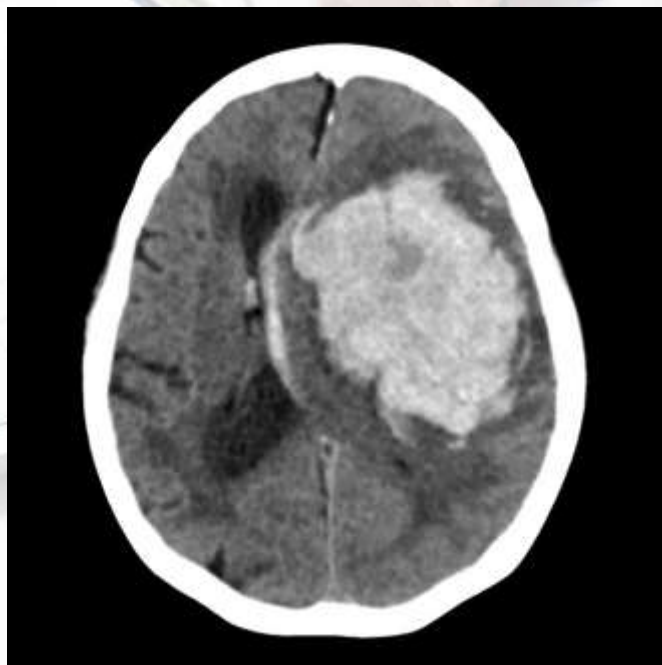
# 中風－治療

- 後續治理：
- 物理治療
- 職業治療
- 言語／吞嚥治療
- 針灸
- 臨牀心理學
- 排便訓練
- 壓瘡處理
- 長期護理
- 舒緩治療



# 中風－治療

- 出血性中風：
  - 腦外科手術清除瘀血
  - 檢測及處理出血源頭（如有）
  - 控制血壓
  - 復康



# 中風－其他

- 罕見中風成因：年輕中風，超越一般中風因素
  - 血管撕裂、血管炎、凝血病變、心漏、遺傳病……
- 罕見中風候群：中風但非一般癥狀
  - 腦幹中風、眼中風、靜脈中風、脊髓中風
- 偽中風：疑似中風但非中風
  - 癲癇、昏厥、功能性神經障礙、偏頭痛、腫瘤、炎症……



# 中風－預防

- 第一級預防－發病前／治未病
  - 預防／治療三高
  - 心房顫動 → 抗凝血藥
  - 戒煙
  - 改善生活習慣
- 第二級預防－發病後避免再發
  - 嚴格執行第一級預防
  - 抗血小板藥／抗凝血藥



# 中風－預防

## 十大可控制風險因素

|                 |               |
|-----------------|---------------|
| 1. 高血壓 (57%)    | 6. 高鈉飲食 (11%) |
| 2. 室外空氣污染 (17%) | 7. 高血糖 (10%)  |
| 3. 吸煙 (14%)     | 8. 腎病 (9%)    |
| 4. 高膽固醇 (13%)   | 9. 低纖飲食 (6%)  |
| 5. 家居空氣污染 (11%) | 10. 酒精 (5%)   |

- World Stroke Organisation: Global Stroke Fact Sheet 2025. Int J Stroke. 2025 Jan 3;(20(2)):132-144.

# 中風－總結

- 中風非常普遍，引致殘障，並有年輕化趨勢
- 缺血性中風遠多於出血性中風
- 超急性治療發展集中在缺血性中風上，黃金治療時間窗延長中
- 預防勝於治療

• 唔使急，最緊要快