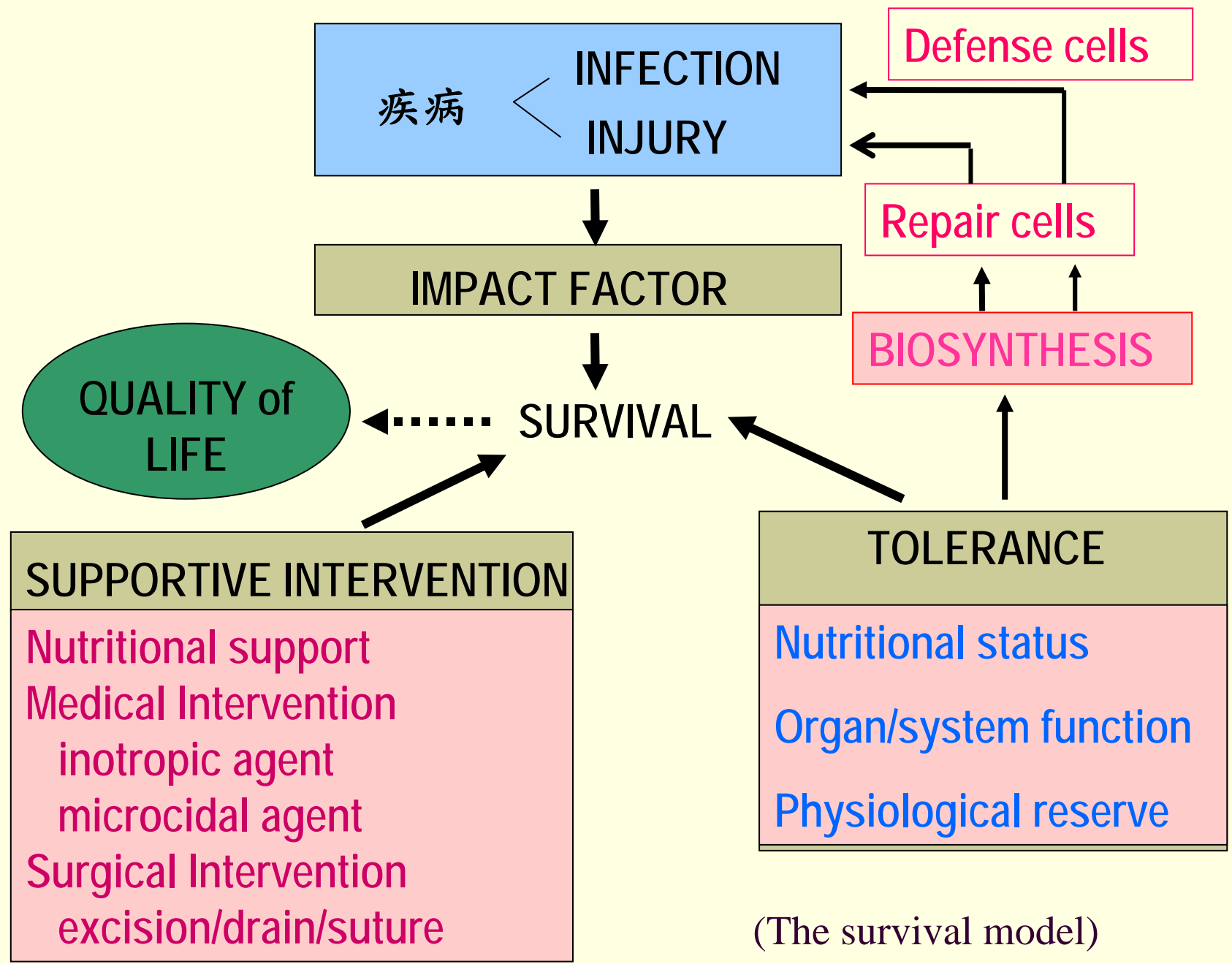


病患住院時的風險評估

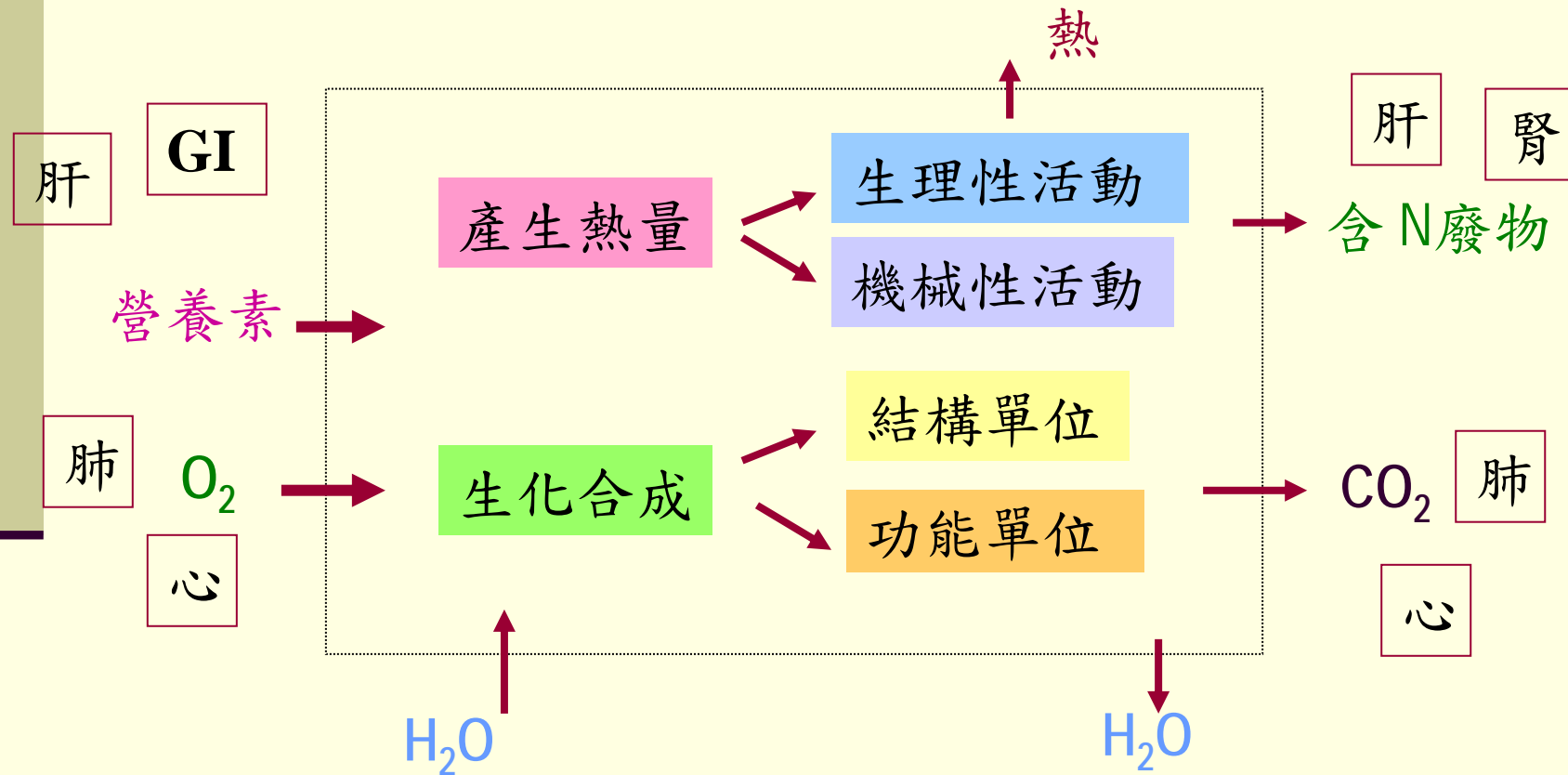
邱艷芬教授



(The survival model)

維生與致死的生理現象

■ 人體生命活動--新陳代謝



第一步：分辨疾病的性質

■ 疾病

■ Infection

- Invasion of microorganism

Defense cells



■ Injury

- Trauma
- Pressure sore
- Ulcer
- burn
- Cancer
- Ischemia

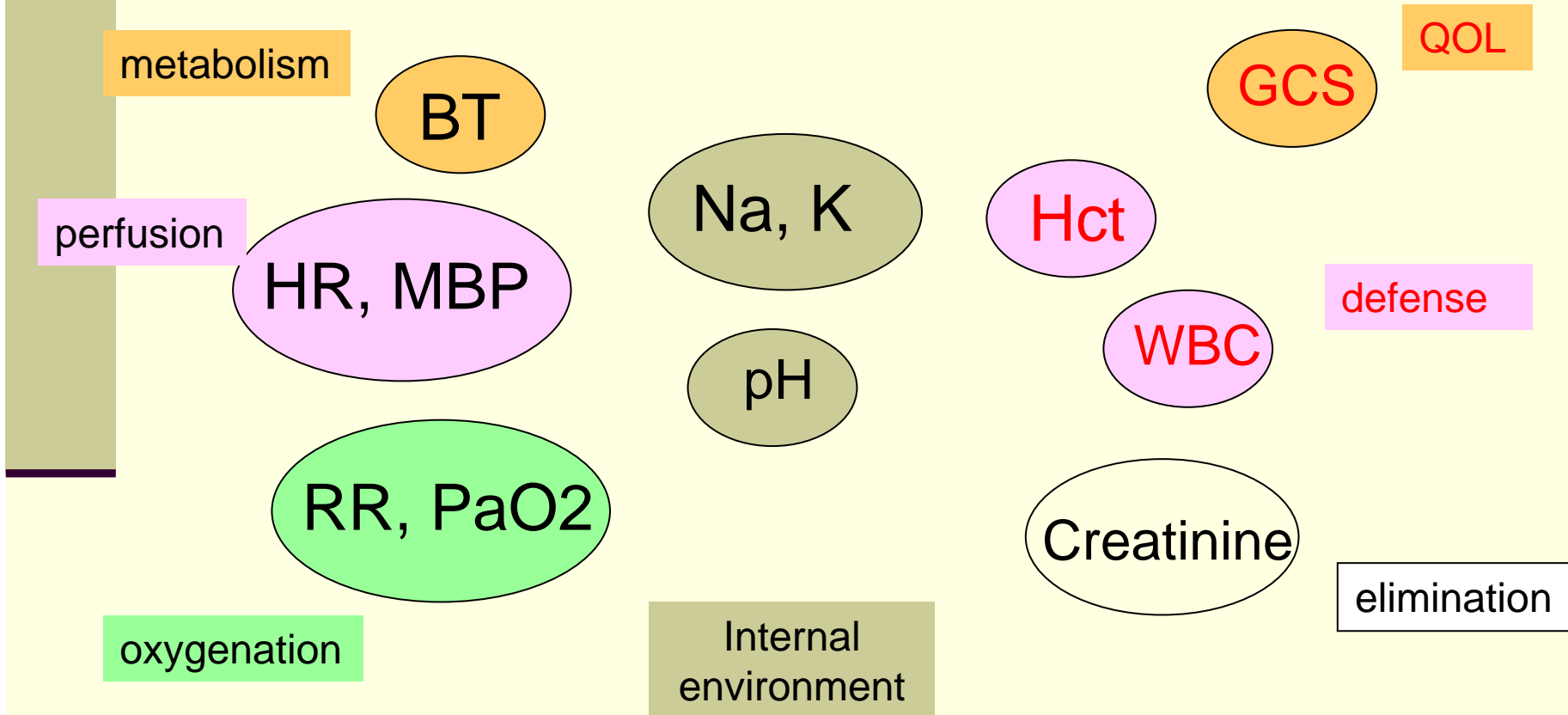
Repair cells



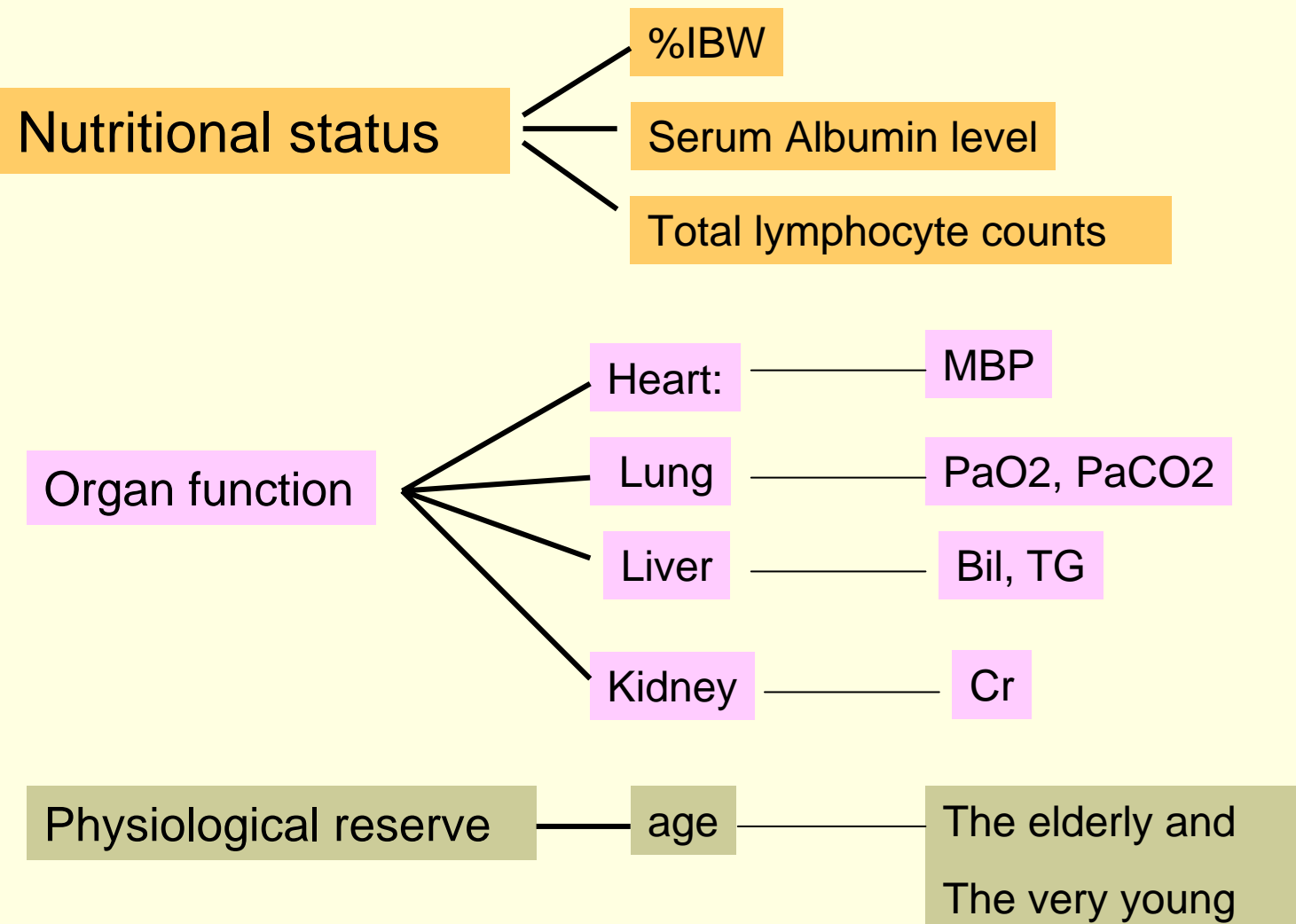
第二步：了解疾病衝擊的身體的反應

Physiological stability / derangement continuum

評估反映生命不穩定之生理指標

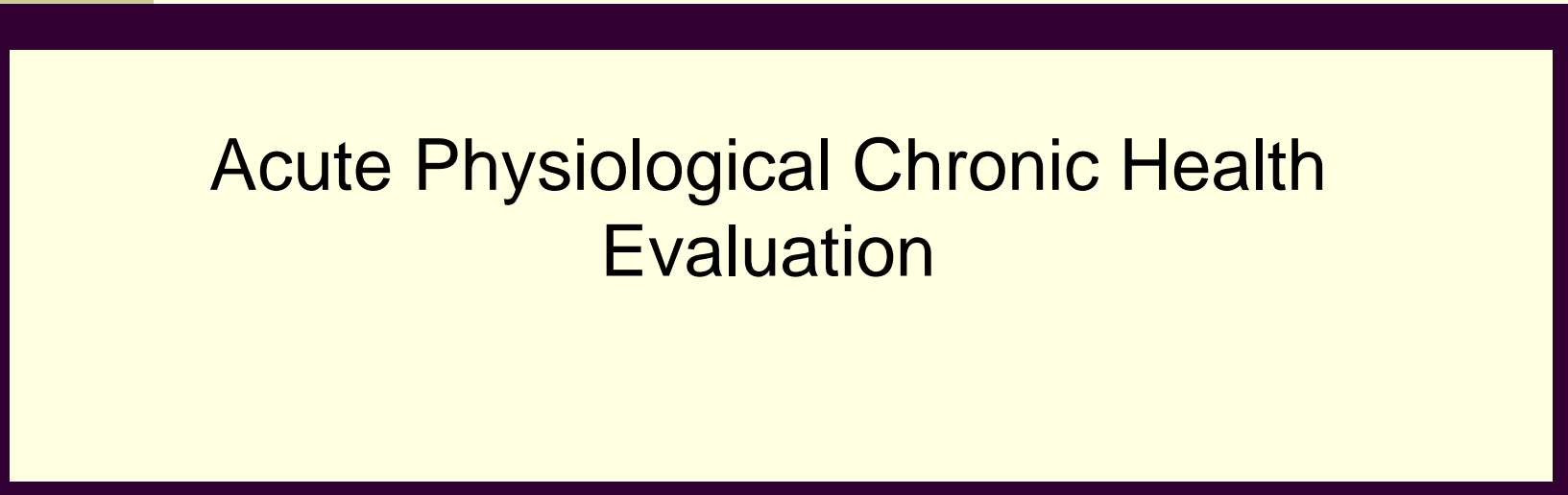



第三步：評估耐病能力





APACHE II Scoring System



Acute Physiological Chronic Health
Evaluation

The Acute Physiological Score

Variable	4	3	2	1	0	1	2	3	4	Patient score
Temperature ($^{\circ}\text{C}$)	≥ 41	39.0-40.9		38.5-38.9	36.0-38.4	34.0-35.9	32.0-33.9	30.0-31.9	≤ 29.9	
Mean Arterial BP	≥ 160	130-159	110-129		70-109		50-69		≤ 49	
Heart Rate	≥ 180	140-179	110-139		70-109		55-69	40-54	≤ 39	
Respiratory Rate	≥ 50	35-49		25-34	12-24	10-11	6-9		≤ 5	
PaO ₂ if FiO ₂ < 50%					>70	61-70		55-60	<55	
AaDO ₂ if FiO ₂ \geq 50%	≥ 500	350-499	200-349		<200					
Arterial Ph	≥ 7.7	7.60-7.69		7.5-7.59	7.33-7.49		7.25-7.32	7.15-7.24	<7.15	
Serum HCO ₃ (if no Arterial pH value)	≥ 52	41.0-51.9		32-40.9	21-31.9		18-21.9	15-17.9	<15	
Serum Na	≥ 180	160-179	155-159	150-154	130-149		120-129	111-119	≤ 110	
Serum k	≥ 7	6.0-6.9		5.5-5.9	3.5-5.4	3-3.4	2.5-2.9		<2.5	
Creatinine (ARF $\times 2$)	≥ 3.5	2.0-3.4	1.5-1.9		0.6-1.4		<0.6			
Hematocrit	≥ 60		50-59.9	46-49.9	30-45.9		20-29.9		<20	
WBC count	≥ 40		20-39.9	15-19.9	3-14.9		1-2.9		<1	
Glasgow coma score	E:		V:		M:		GCS=()		15- GCS=	
Total score A (APS)										<input type="text"/>

***if the patient has endo in situation record the GCS as such as E3V4M4: not including into Total a score

The age and chronic health score

Age Adjustment

Age (Yrs)	<44	45-54	55-64	65-74	>75	Patient score B
Points	0	2	3	5	6	

Chronic Health Adjustment

CHP	No organ Failure	With Organ Failure & Receive regular operation	With organ Failure & receive emergent operation or not	Patient Score C
Points	0	2	5	

Assessment of the Organ Failure :

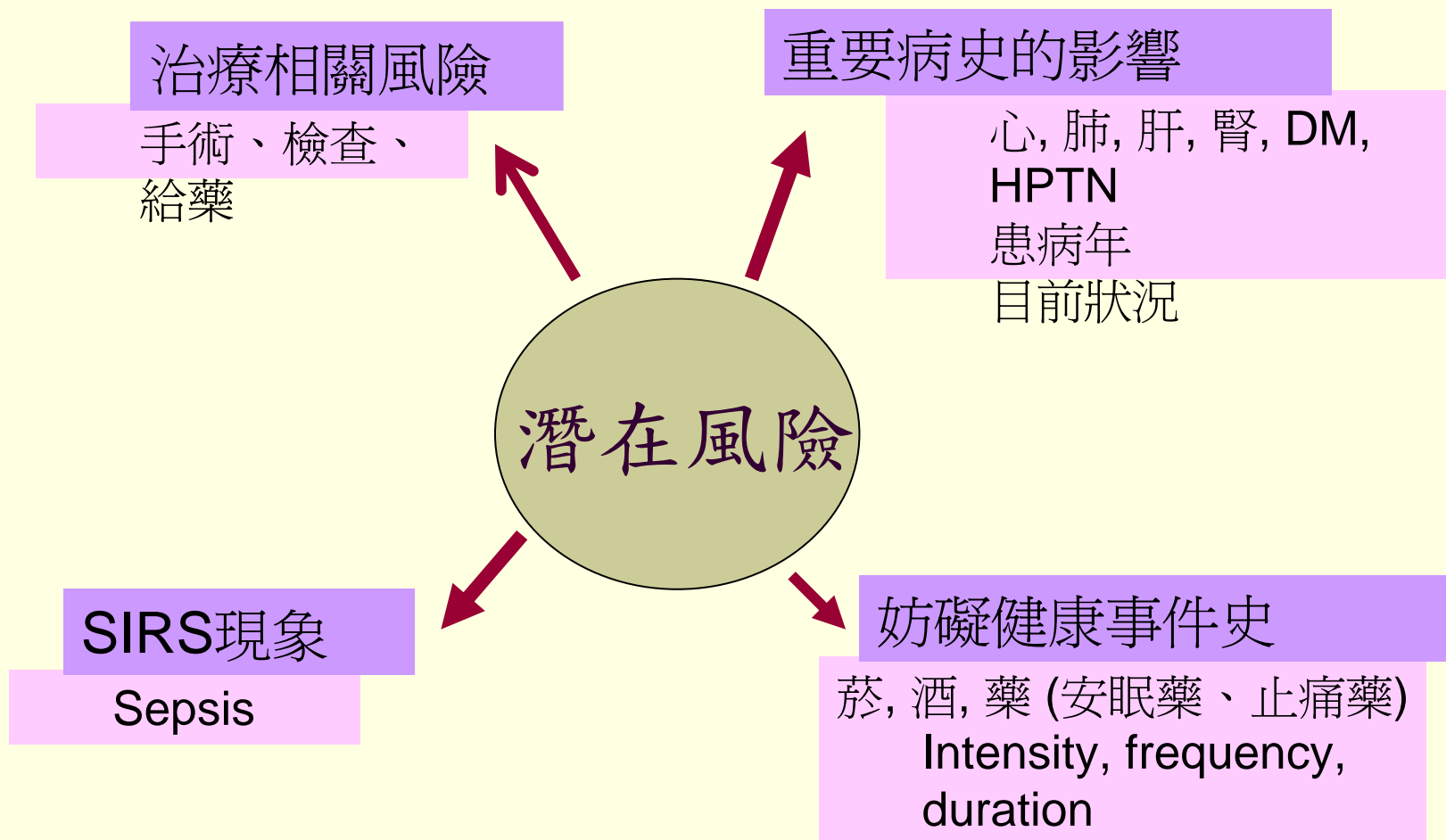
1. Heart -NYHA Class IV
2. Lung -COPD , Hypoxemia , Hyper PaCO₂ , Pul . Hypertension >40mmHg , On ventilator
3. Liver -Liver cirrhosis , Portal Hypertension , Esophageal varices , Hepatic failure , Hepatic coma
4. Kidney-Hemodialysis
5. Immune-Immunocompromise

■ APACHE II score = APS + Age+ CHS

肝臟合成體蛋白的優先順序

- 抵禦性蛋白最為優先
- 其次為癒傷蛋白、凝血蛋白
- 再次為運輸蛋白；
 - 血紅素（hemoglobin）比白蛋白（albumin）優先；
- 最後是臟器蛋白

第四部：評估潛在風險



SIRS

- 當以下狀況同時呈現兩個以上 即是(Bone et al.):
 - **temperature** more than 38°C or less than 36°C,
 - **heart rate** greater than 90 beats per minute,
 - **respiratory rate** more than 20 breaths per minute or **PaCO₂** less than 32 mm Hg,
 - **WBC** more than 12,000 cells/mm³, less than 400 cells/mm³, or more than 10% immature forms (**bands**).

Stages of diabetic nephropathy

- develop to ESRD in 20 years
 - Stage I: early functional change, renal hypertrophy and hyperfiltration
 - Stage II: early structural change, thickening of glomerular capillary basement membrane
 - Stage III: incipient nephropathy with microalbuminuria (30~300 mg/24 hr) and hypertension
 - Stage IV: established nephropathy with gross proteinuria(> 300mg/24 hr) and decreased GFR
 - Stage V: progressive renal insufficiency with rapidly declined GFR (-1 ml/month), kidney loss up to 3% of function every month

The pathology of diabetic nephropathy:

- **Glycosylation** of basement membrane and mesangial proteins:
- Diffuse basement thickening followed by proliferation of mesangial cells and nodular glomerulosclerosis consisting of deposition of glycoprotein material in nodular fashion.

都是高血糖惹的禍！

Analgesic abuse

- Toxic nephropathy
 - Combination of **aspirin** and **phenacetin** causes renal damage
 - Aspirin inhibit the local production of prostaglandin, thus enhancing the toxic effect of phenacetin metabolites and slowing their removal.
 - Aspirin lowering the concentration of glutathione which normally inactivates phenacetin metabolites.
 - **Ingestion of 6-8 tablets of APC(aspirin, phenacetin, caffeine) for 5-8 years produce significant renal damage (2~3 kg each).**

- **Acetaminophen (Tylenol)** is a primary metabolite of phenacetin. Habitual acetaminophen use increase the risk of renal disease

Analgesic abuse

- aspirin 與 phenacetin 合併使用造成腎衰竭
- Aspirin 阻止局部 prostaglandin 的產生, 加強 phenacetin 代謝產物之毒性也減緩其排除.
- Aspirin 降低 glutathione 濃度使之無法減除 phenacetin 代謝產物之毒性.
- 每日服用 6-8 tablets 的 APC (aspirin, phenacetin, caffeine) 5-8 years 對腎將有嚴重傷害 (2~3 kg each).
- Acetaminophen (Tylenol) 是 phenacetin 主要代謝產物. 習慣性服用增加腎疾風險

Other Risks

- Fall
- Pressure sores
- SIADH
 - Malignant, obese, elderly, female, major surgery
- DVT induced embolization
 - Immobilization, dehydration
 - Homan sign
- Hypertensive malignancy
 - DBP > 120 mmHg
 - MBP > 160 mmHg

第五步：擬定護理計畫

■ 護理問題

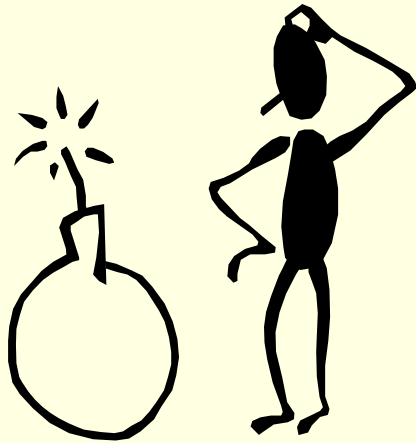
- Abnormal data
- Impaired function
- Discomfort
 - Pain
 - Dyspnea
- Threaten to life
 - Hypoxia
 - hypoperfusion

■ 護理處置

- 降低問題嚴重度
 - Data
 - Function
 - Discomfort
 - Life threatening
- 去除引起問題之原因
- 追蹤進展
- 知會相關人員

當衝擊迎面而來 ~

妳選擇逃避或面對？



逃避不了，就迎面而戰吧

Thank you for your attention

