

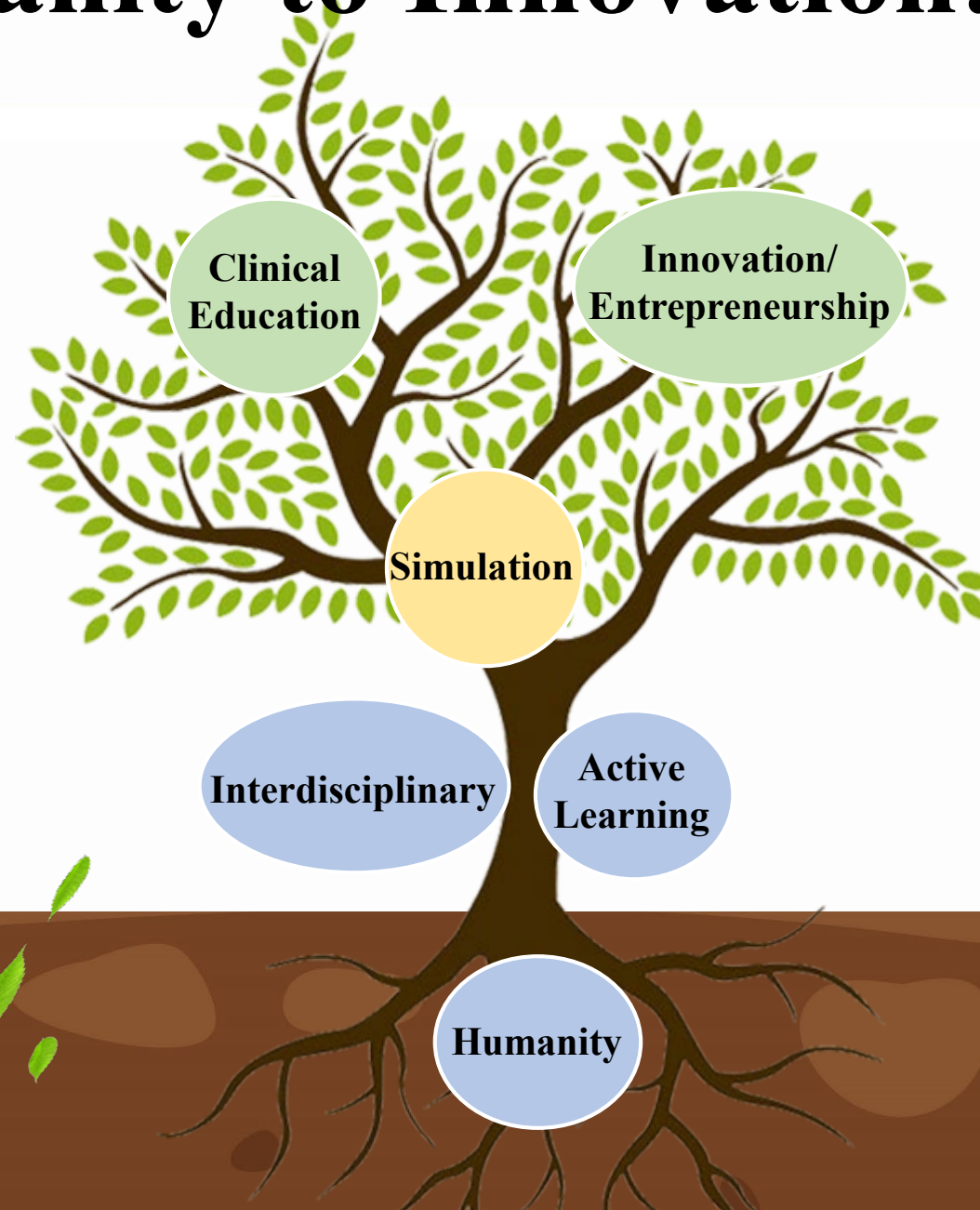


臺北醫學大學
TAIPEI MEDICAL UNIVERSITY

【Panel Discussion 2】 Digital Transformations in Higher Education

Mai-Szu Wu, MD
President, Taipei Medical University

From Humanity to Innovation...



TAIP-X (TMU AI Integrated Platform X)

- Enhanced by Gen AI Innovations



Acute Care

- System upgrades

Widely adopted by medical centers, regional hospitals, and clinics.

- Gen AI innovations
- Smart ward technology

Ambulatory Care

- Telemedicine/ Telehealth service
- Hospital-at-Home (HaH) services
- Resilient medicine service

Advanced Care

- Digital pathology
- Precision medicine platforms
- AI-powered diagnostic tools
 - AKI-AKD Care System
 - Ted ICU 2.0
 - Deep Lung-CAC

2025
TAIP-X
One Platform
One Standard
One Protocol



2023.12.31
Launch

TMU Health
HIS3.0 Project

2024.03.01
Launch



2024.07.01
Launch

2024.02.08
Launch



TMU Health : **IT Roadmap (2023-24)**

Medical Simulation Center...



3rd F

OSCE Center
& Simulated
Clinic



2nd F

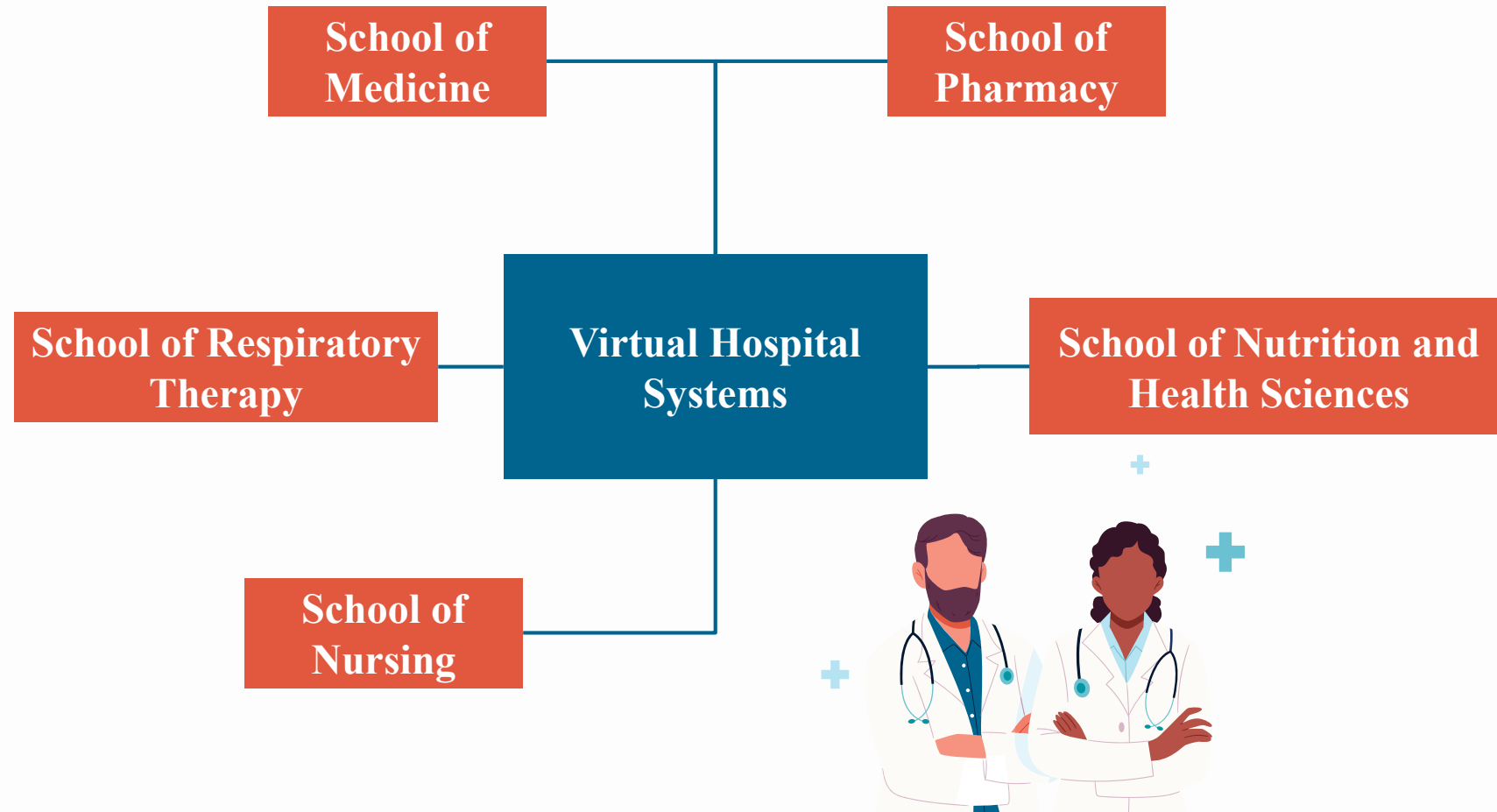
Multi-
Functional
Simulated
ICU & OR
270° VR room



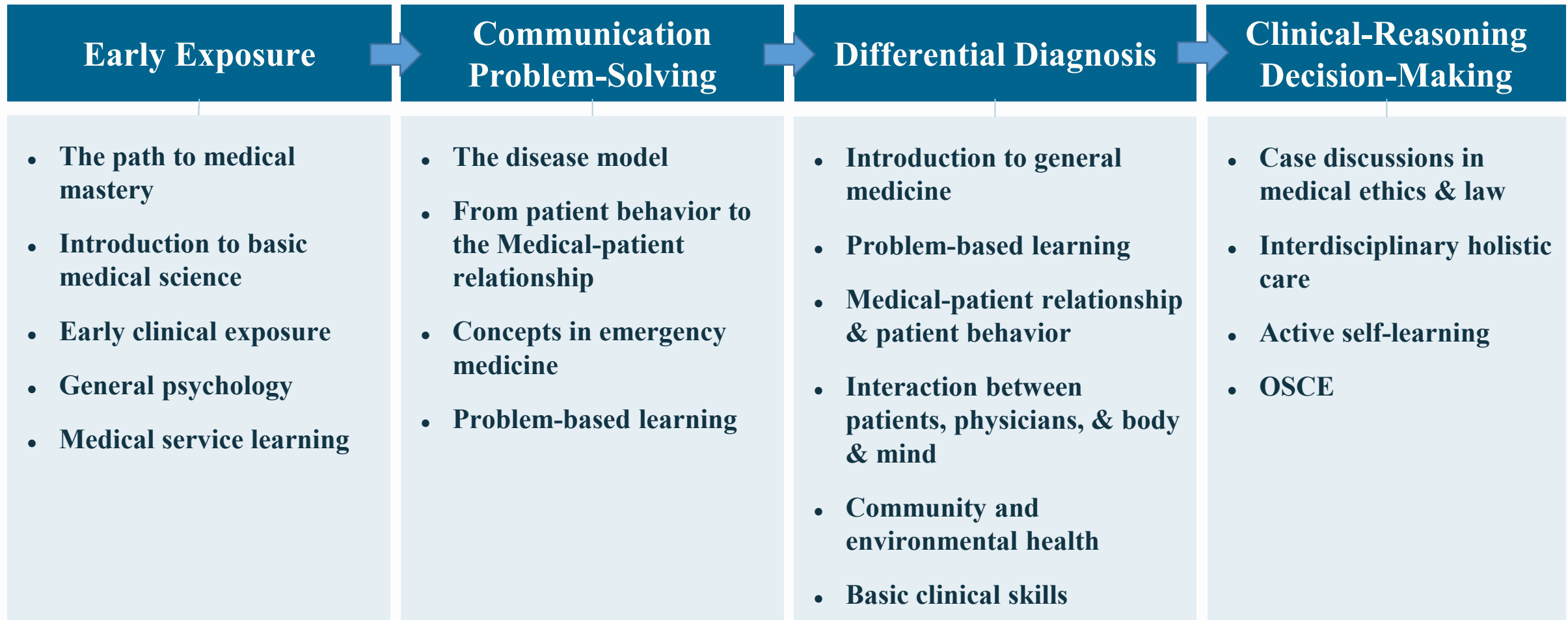
1st F

Simulated
Nursing
Station &
Ward

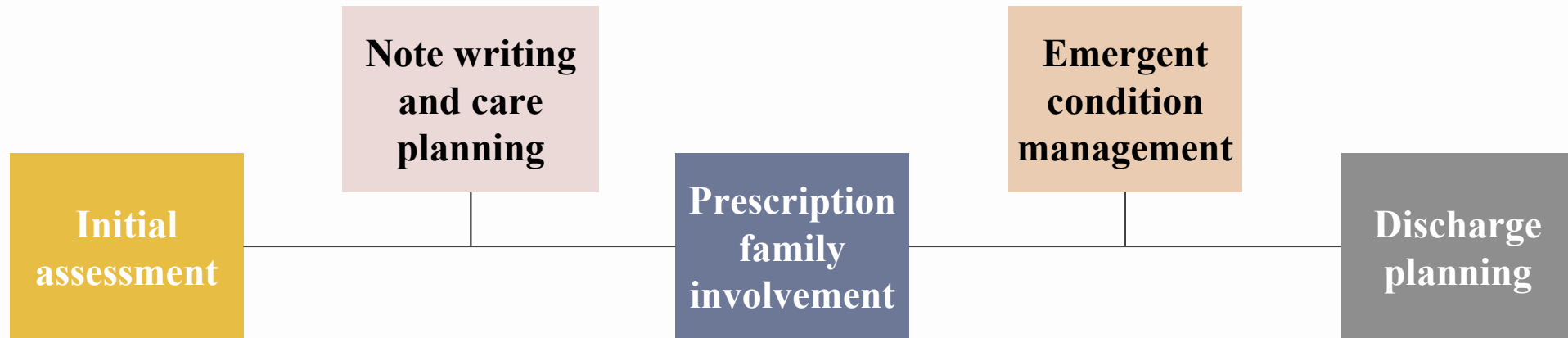
Virtual Hospital Systems...



Virtual Hospital Systems in Medical Education



Early Clinical Exposure...



Allow students early exposure to patient's hospital journey, helping them understand the content and experiences of their future careers



Immersive and Realistic...



Profile

Lab

Image

Exam

Culture

Patho

Surgery

Story

ePaper

W

過渡科別

病歷首頁

Cancer Dashboard

歷史用藥

Vaccine Log

[OPD] 06/12 免疫風濕 林子閏

06/05 (住院中) 胸腔內科 徐上富

住院醫囑 護理查詢 TPR ITPR 血糖

呼吸治療 跨團隊紀錄 Antibiotic 住院歷程

入院病攔 Progress 出院病攔

會診 - 06/09 心臟血管 陳志維

[ER] 06/05 急診科 郭書誠

急診醫囑 檢查初步報告

病歷摘要 病程紀錄

[OPD] 06/05 免疫風濕 林子閏

05/20 ~ 05/29 血液腫瘤 蔡佳郁

住院醫囑 護理查詢 TPR ITPR 血糖

呼吸治療 跨團隊紀錄 Antibiotic 住院歷程

入院病攔 Progress 出院病攔

會診 - 05/21 過敏免疫風濕科 林子閏

會診 - 05/23 復健科 賴建宏

會診 - 05/26 消化內科 徐善維

[ER] 05/20 急診科 蔡鴻維

急診醫囑 檢查初步報告

2025/06/10 15:52 SOAP

Goals

1. survey and treatment (Not yet)

Subjective

dyspnea on exertion

fair spirit compared with 2 days ago

tolerate diet by himself

Objective

[Vital Sign]

(06/10 08:57) BT 36.7°C, RR 22/min, PR 102/min, SBP 144/mmHg, DBP 82/mmHg, SpO2 93%, Pain Score 0

(06/10 06:07) BT 36.7°C, RR 19/min, PR 97/min, SBP 156/mmHg, DBP 95/mmHg, SpO2 92%

[I/O]

(06/10) [Total] Input: 0 ml / Output: 1250 ml

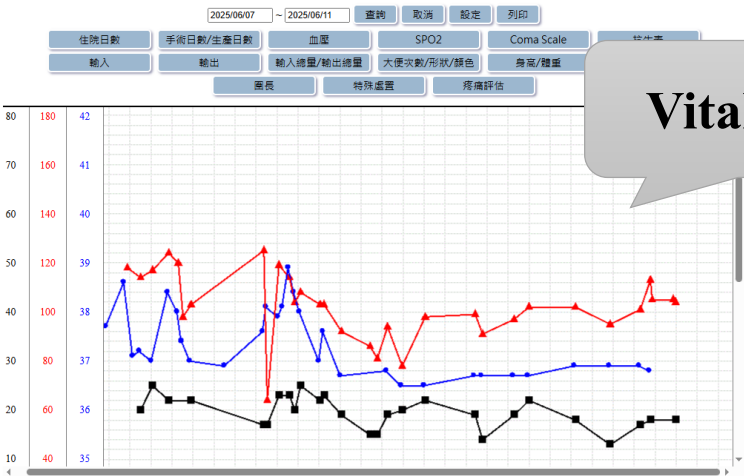
[Image]

(06/10) Chest(AP)Portable

Chest(AP)Portable

病情摘要:

Medical History



Vital Signs

護理紀錄	TPR	VitalSign查詢	傷口紀錄	管路	管路評估	發熱/I/O	血糖紀錄	血糖/胰島素	血糖監測設備	疼痛紀錄	ICU疼痛紀錄	成人入院評估	精神科入院評估	兒童入院評估
每日評估查詢	約束	醫囑查詢	用藥查詢	護理給藥查詢	病房點滴使用統計	衛教指導	特設護理紀錄	分發護理紀錄	交班明細					
時間日期	紀錄													
2025/06/11 00:33	一般：躺床入睡中，呼吸平順，氧氣面罩8L/min使用，無不適主訴，右手靜脈留置針眼淨無紅腫滲液，檢查中，左手靜脈留置針眼淨無紅腫滲液，依醫囑予常規抗生素 Brosym 4000mg滴注使用，留置導尿管固定妥安，續引流淡黃色尿液順暢，雙側床欄使用，家屬陪伴，生理監視器使用，續觀。													
2025/06/11 06:09	一般：躺床休息中，呼吸平順，氧氣面罩8L/min使用，無不適主訴，依醫囑予常規口服藥物使用，依醫囑及經病患同意予抽血送檢，右手靜脈留置針眼淨無紅腫滲液，檢查中，左手靜脈留置針眼淨無紅腫滲液，續生理食鹽水滴注順暢，留置導尿管固定妥安，續引流淡黃色尿液順暢，雙側床欄使用，家屬陪伴，生理監視器使用，續觀。													
2025/06/11 07:09	I：病人因病人拒服未給藥未執行 Acetal(Acetaminophen) tab 500mg 憂舒疼錠(Acetaminophen)，													
2025/06/11 07:10	班次摘要 一般：病人體溫36.9°C、脈搏101次/分、呼吸17次/分、血壓156/88mmHg、血氧95%、四肢肌力：左上肢肌力5分、右上肢肌力5分、左下肢肌力5分、右下肢肌力5分，配偶陪伴，氧氣治療O2:8L/min 簡易面罩，由口進食，未暢正常，排尿方式：導尿管留置，現存管路詳見NIS-管路管理。													
2025/06/11 08:01	D3# E：評價114/06/12前，病人能攝取足夠的營養，維持或改善目前的營養狀況，問題之營養少於身體需要目標，目標未達成，繼續執行原建立之照護計畫。													

Nursing Record

預約出院

2025年6月

時間 14:18:24

出院狀態: I_MBD

出院原因

建議病人隨時使用之工具

一般交通工具 救護車

預約

現在預約

系統選擇

臺北醫學大學附設醫院出院術教指導

出院術教指導

V30.0.2

說明：本系統需具有NIS-> T.B.住院病歷報告輸入 作業權限

列印名單

出院指導

居家照護

住院預約

Discharge Documentation

Differential Diagnosis...

Mission of 1st week

01

Interact with standardized patients
(Based on Virtual Hospital Systems cases)

- Differential diagnosis
- Request lab test and imaging

02

**Using Virtual Hospital
Systems**

- Diagnosis confirmation
- Treatment strategy

Mission of 2nd week

03

Complete reports/reflect

- Discharge procedures
- Patient and family education

Clinical Reasoning...



Preview
patient history
online

History taking with
virtual patient

Write patient notes
Apply critical thinking

Team-based
diagnostic
reasoning

Exam Culture Patho Surgery Story ePaper W

2025/03/14 血液腫瘤科 蔡佳釵

History
lower esophageal SCC with multiple distant LN mets CT3N3M1, stage IV
2024/07/29 neck CCRT 25 fx, 180 cGy + 8 fx, 200 cGy to 09/25 HTN

Subjective
submandibular LN (+), dysphagia (+)
no cough, BW 58, mild oral ulcer

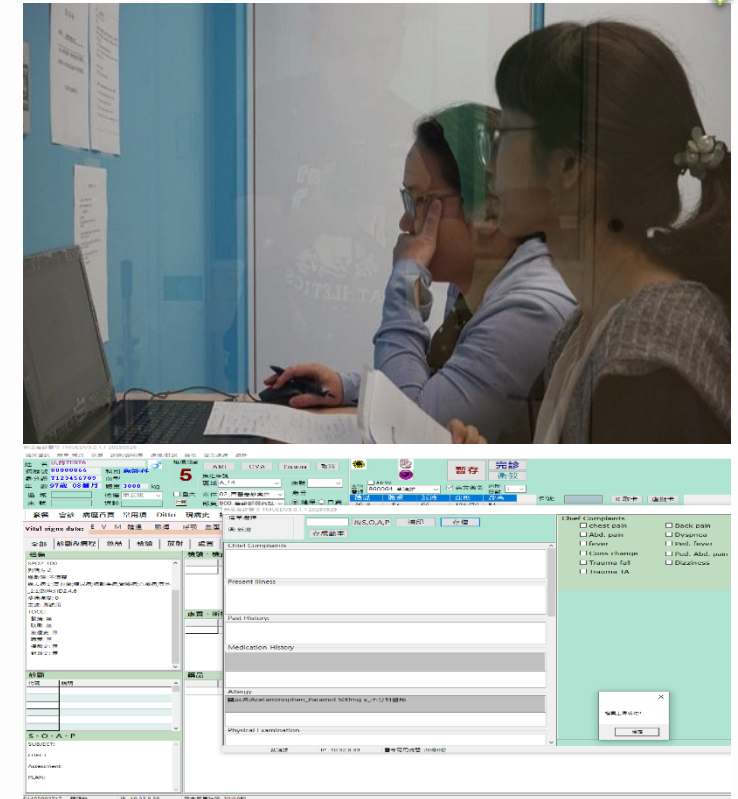
Objective
dysphagia & BWL 3 kg in months, 2023/05 (+)multiple neck LNs, visited 陽大附醫H, PES: esophageal tumor, bx: SCC
2023/05/19 brain MRI (外): no brain mets
2024/04/11 PET/CT: new Lt scapula, RLL lesion; multiple LAP of bil neck, supraclavicular, axillary, pulmonary hilar, para-aortic region, most 1size & uptake
2024/10/21 PET/CT: PD of lower esophageal ca with new & persistent LNs from neck to Rt renal hilum
2024/09/02 CEA / Ca-199 / SCC 20.8 / 171 / 6.8
2024/10/08 CEA / Ca-199 / SCC 18.2 / 186 / 11.4
2024/09/24 WBC 5630 Hb 11.8 Neu 55.0% Cr 1.0 ALT 15 Na / K 137 / 4.4
2024/10/08 WBC 5540 Hb 13.4 Neu 47% glu 85 Cr 1.0 ALT 14 LDH 182 CXR: no lung mets, KUB: no ileus

Assessment

- C15.3** Malignant neoplasm of upper third of esophagus
- C76.1** Malignant neoplasm of thorax
- I11.9** Hypertensive heart disease without heart failure



Virtual Patient, Student Interaction



To train communication, empathy, teamwork, and critical thinking

Personalized Learning with AI Feedback & Decision Making



新莊生醫學士 TMUIPD V5.0.0.8 20250605

為瞭解病人全人狀態
入院報到後，請病人掃碼填寫全人醫療篩檢量表

項目	篩檢	結果	分數	評分
1. 身體健康	是	否	0分	
2. 精神健康	是	否	1-6分	
3. 社會功能	是	否	7-12分	
4. 生活品質	是	否	13-18分	
5. 自我照顧	是	否	19-24分	

生心社靈 各面向總和

對應分級與建議照護方式

1. 辨識可能問題
2. 留意照會及轉介時機
3. 同一
4. 照
5. 個人化照護
跨領域整合照護

全人分數
生3心4社1靈1

Registration

評分結果可於住院醫令、跨領域照護平台查閱(詳見11/08醫務部公告之MIS Mail)

【臺北醫學大學附設醫院 醫務部】最近修改日期：2021/11/12

新莊生醫學士 TMUIPD V5.0.0.8 20250605

病歷號	姓名	性別	年齡	IC卡	取消	確認	預約掛號
02 1140605 1808	000N01 Bisoprolol	1.25mg/tab	CONCOR 1.2 5 mg (鉄)	1	Tab	QD	PO 健
02 1140605 1808	ODIO40 Valsartan	40mg/tab	Diovan F.C.40mg (鉄)	1	Tab	QD	PO 健
02 1140605 1808	OCRE Rosuvastatin	10mg/Tab	Crestor F.C 10mg	1	Tab	QD	PO 健
02 1140605 1808	TBRE Budesonide/Glycopyrride	160/7.2/5.0mcg/dos	Breztri Aerosphere 160/7.2/5.0mcg/dose	2	Tab	QD	PO 健
02 1140605 1808	LMEG-1 Mestrol acetate	40mg/mL	120mLMEGEST susp. 40mg/mL	1	Tab	QD	PO 健
02 1140605 1808	OROM Dextromethorphan/Cre	20/50/200mg/cap	Romicon-A	1	Tab	QD	PO 健
02 1140605 1810	OLANS Lansoprazole	30mg/cap	Lansoprazole Capsules 30mg	1	Tab	QD	PO 健
02 1140605 1939	OVEM Tenofovir alafenamide	25mg/tab	Vemlidy 25mg	1	Tab	QD	PO 健
02 1140605 1939	OM LCHEM Concentrated fermente	4mL/bot	14bot/bot Microsoy oral solution 4mL	1	Tab	QD	PO 健
02 1140606 0956	OSIL Silymarin	150mg/Cap	Silirin 150mg	1	Tab	QD	PO 健
02 1140607 1209	IBRO-1 Cefoperazone/Sulba	(1/1)g/vial	Brosym (1/1)g/vial	1	Tab	QD	PO 健
02 1140607 1211	OTHER Diltiazem	30 mg	Herbesser 30mg (鉄)	1	Tab	QD	PO 健
02 11406081 106	IMEPR Methylprednisolone	40mg/vial	MEPRON(solu medrol)	1	Tab	QD	PO 健
02 1140611 0853	OACB50 Acetaminophen	500mg/tab	Acetal(Acetaminophen) tab	1	Tab	QD	PO 健

Prescribe orders based on imaging and lab data



View images

OnePage 3.0.80

Profile Lab Image Exam Culture Patho Surgery Story ePaper

Na 135 K 3.6 GOT 77 GPT 111 RBC 3.61 HGB 10.9 HCT 32.2 MCV 89.2 MCH 30.3 MCHC 34.0 RDW 18.9 MPV 7.40 RDW-SD 58.6 PCT 0.15 MDW 22.5 WBC 16.81 %NEUT 92.0 %LYM 3.4 %MONO 4.4 %EOS 0.0 %BASO 0.2 CRP 3.30 PLT 198 PDW 17.2 Lipemia 1+ OTHER 補藥加驗

Creatinine 0.8 eGFR 102 BUN 14.0 Lactate 13.3 Hemolysis 1+ CMV IgM 0.360 CMV IgM 結果 Nonreactive CMV IgM 生物參考區間 Nonreactive<0.85 Index; Grayzone:0.85-0.99 Index; Reactive:>=1.00 Index HSV 1+2 IgM Negative CK 53 CKMB 33.0 Troponin-T 0.022 NT-pro BNP 342.00 Blood gas pH 7.479 pCO2 24.7 pO2 164.5 sO2 99.6 HCO3 18.0 ABEC -2.9 SBEC -3.6 cHCO3 21.4 BEecf -5.6 Procalcitonin (PCT) 0.659 委外代檢機構 大安聯合檢驗所 tCO2(P)c 15.4 HSV 1+2 IgM result <0.50 HSV 1+2 IgM 生物參考區間 Negative:<0.9; Equivocal:0.9-1.09; Positive:>=1.1

WBC 3.40

Creatinine 0.9 eGFR 腎絲球過濾速率 89 GPT 81 Mycoplasma pneumoniae Igm Negative ESR 63 ESR 87 PT-FIB 13.5 PT-FIB-INR 0.98 PT-Control sec 14.6 MNPT sec 13.7 APTT 35.4 APTT-R 0.94 APTT-Control sec 32.3 CPK 58 Blood gas pH 7.423 pCO2 36.1 pO2 34.1 sO2 66.9 HCO3 23.0 tCO2 20.1 ABEC -1.4 SBEC -0.9 cHCO3 23.6 BEecf -1.4 LDH 292 Lip 33 Seg 41.9 Band 1.7 LYMPH 20.5 MONO 27.3 BASO 0.9 ATYP LYMPH 1.7 OTHER 為人工開片結果 MYELO 1.7 META 3.4 PROMYELO 0.9 NORMOBLAST 3.4

肝型DNA IU/mL Target Not Detected B型肝型DNA Log10 IU/ml Target Not Detected Interpretation A specimen with a result of target not detected can't be BV DNA. CEA 20.00 CEA reference range Non-smoker<3.8 ng/ml; 2.00 *SCC 8.40 *Anti-mitochondrial Ab Negative[1.20] *Anti-smooth

ANC 15465 16810 * 92%

AI feedback

Changing Landscape...



- **Early Clinical Exposure...**
- **Immersive and Realistic...**
- **Differential Diagnosis...**
- **Clinical Reasoning...**
- **Decision Making...**

Thank you
