

P-1

"一位忙碌的臨床醫師如何追求學術 -- 我的旅程與反思 "

How a busy physician/surgeon pursues an academic career – My Journey and Reflection

Fu-Chan Wei, MD, FACS

Distinguished Chair Professor

Department of Plastic Surgery

Chang Gung Memorial Hospital

Chang Gung University, Medical College

因為制度及心態使然，台灣的臨床醫師基本上都很忙，在醫學中心的醫師們更是；除了服務病患外、還要擔任很多教學、研究甚至行政工作，因此在時間的分配上每個人幾乎都曾面臨互相排擠的窘境；更不幸的是，機構在評估個別醫師的表現或申請升等時幾乎不例外的都要把研究成果、特別是論文發表的量與質、列入最重要的考量之一；因此學術研究的成就與帶來的樂趣除了少數有天份、有資源的醫師可以達成並享受外，其實在大多數的人都長期蒙受不小的壓力！

這個演講裏、我將分享自身在繁忙的外科生涯中追求學術的過程經驗、分析臨床與基礎研究的利基與侷限，提醒大家如果選擇基礎研究時，在開始投入前務必謹慎評估自我能力及可用時間、機構人才與設備資源、團隊形成與否、等諸多影響成功及是否可以永續的內外條件；演講中也會強調我們臨床醫師在臨床研究方面人人都有的優勢；分享我如何做好較完整的病患資料，包括文、圖的收集、分類與追蹤、以做為之後提供永續不絕研究來源的小小心得！

P-2

如何因應超高齡社會－健康・醫療數據之活用－

經濟產業省 商務服務組政策統括調整官

兼 厚生勞動省 醫政局 統括調整官

內閣官房 健康・醫療戰略室 次長 江崎 禎英

被稱為人生 100 年的現代，如何幸福地「活好活滿」到最後一刻是個重要題目，需要建構「終生現任社會」，使任何人皆能配合其年齡及體力發揮身為社會一員的責任。為此，必須從所謂「生產年齡」階段開始促使經營者及從業人員致力於健康管理，同時創造新服務以應對隨著年齡增長而多樣化的「健康需求」，且活用地方資源、打造合乎地方實際狀況的供給制度。

此外，就社會保險制度觀點而言，主要疾病之性質不斷改變，能否適當應對相當重要。以往的主要疾病為傳染症，細菌或病毒由外入侵身體所造成。然而現在的疾病則是以老化及生活習慣等身體內部多重原因相關病症為主。在多重因素互相影響而形成的內因型疾病方面，藉由早期發現潛在疾病進行預防及控制惡化很重要，需要包含飲食及運動管理等綜合性處理。

此時，在健康・醫療資料的運用上必須擺脫對大數據的過度期待，需藉由收集、活用貼近當事人狀況的高品質健康、醫療資訊（Quality Data），打造工具及制度以利用 AI（人工智慧）或 IoT 進行適切的指導、介入。醫療領域電子化的意義不僅僅是提供方便的工具以輔助

看診、治療行為，而是大幅轉換既有醫療型態。期待藉著資訊網路連結全醫療機關，做到掌握同時並進的治療行為關聯性、提示包含預測結果的治療選項等，建構一個將全醫療機關視為大腦並與時俱進不斷成長的醫療系統。

透過這一連串的努力，實現能在超高齡化社會維持的社會保險系統，同時培養健康保健的相關新興產業群，為此時代轉換期的重要課題。

S1-1

智能物聯網於智慧醫療的發展

AIOT in the development of smart healthcare

黃明國副院長

高雄醫學大學附設中和紀念醫院

近幾年智能科技的不斷演進，帶動智慧醫院的發展，趨勢也涵蓋遠距醫療 Telemedicine、人工智慧 Artificial Intelligence、機器人 Robotics、智聯網及穿戴裝置 AIOT、區塊鏈 Blockchain 等。而透過 Internet 為基礎，加上通訊能力的演進及資料擷取的速度加快，且透過演算模式，連結實體物件及大數據技術平台，發展出各類的偵測、識別及臨床服務運用。而 5G 通訊技術的開發，已到處可見 Ubiquitous 的境界，以往想像不到的物件皆可聯網，此時的智慧醫療又要有更新之思維。

S1-2

以人為本的人工智慧醫療

People-oriented AI Medical

傅尹志執行長

高雄醫學大學附設高醫岡山醫院籌設營運處

台灣作為全球 IT 重鎮，醫療技術領居全球，科技與醫療的結合擁有十足的潛力。而台灣人口結構的改變，也讓科技與醫療的合作趨勢越來越明確；物聯網與 AI 技術的崛起，更讓醫療照護智慧化指日可待。『科技始終來自於人性』應用在智慧醫療亦是如此，未來的智慧醫療將秉持以人為本的初衷，縮小醫病雙方的資訊落差，成為全人化的照護服務平台。

S1-3

Precision Surgery for Colorectal Cancer: Myth or Reality?

黃敬文主任

高雄醫學大學附設中和紀念醫院大腸直腸外科

In the past three decades, several advancements including improvement in surgical techniques and the development of new therapeutic modalities have improved treatment outcomes of rectal cancers. Anatomic resection ensures complete removal of all locoregional lymph nodes, while maintaining negative circumferential resection margin (CRM), minimizing blood loss, and preserving the autonomic pelvic nerves. Laparoscopy has become the preferred approach to resection of colon

cancer. However, Adoption of the laparoscopic approach to total mesorectal excision (TME) for rectal cancer has been slower because of the difficulty of working in the deep and narrow pelvic space using long, rigid, nonarticulated instruments. Since the first robotic colon surgery in 2002, robotic systems have been expected to overcome the disadvantages of conventional laparoscopic colorectal surgery and improve the clinical outcomes of minimally invasive surgeries for colorectal cancer (CRC). In addition, preoperative concurrent chemoradiotherapy (CCRT) considerably helps in improving the local recurrence rate in patients with locally advanced rectal cancer (LARC). Therefore, preoperative CCRT is the standard treatment for patients with LARC, such as rectal cancer with T3N0 or Tany N1-2 or T4 and/or locally unresectable tumor.

Roboic-assisted rectal surgery in combined with appropriate preoperative CCRT and time interval between radiotherapy completion and roboic-assisted rectal surgery helps in achieving a favorable pathological complete- response (pCR), R0 resection rate, CRM, and sphincter preservation rate. Precision surgery in rectal cancer is safe and feasible by combining this approach with appropriate preoperative CCRT. Moreover, prrcision surgery in colon cancer may be another option.

S1-4

Novel Technique in Robotic Surgery From Multiple Port, Single Port to NOTES

How do We Adjust It

Cheng-Ming Peng, Yao-Kun Yang, Ching-Lung, Hsieh, Min-Che Lin

Division of General Surgery, Department of Surgery

da Vinci Robotic Minimally Invasive Surgery Center

Chung Shan Medical University Hospital, Taiwan

Purpose:

Minimally invasive surgery including laparoscopic and robotic surgery was recently approved for clinical use in hepatobiliopancreatic(HBP) and gastrointestinal(GI) surgery. The purpose of this article is to evaluate the feasibility and technical aspects of robotic single incisional laparoscopic surgery(RSILS) in HBP and GI surgery using the GelPoint , LAGIS Port and Glove Port in a preliminary study.

Peripancreatic surgery is considered as the most complex surgeries. The recently developed robotic technology allows surgeons to perform pancreaticoduodenectomy(PD). Robotic-assisted surgery, with magnified stereoscopic visualization and computer-enhanced 540 degree movement of the surgical instruments, has the potential to overcome the technical impediments to recreating time-tested techniques for open peripancreatic surgery in a minimal invasive technique.

Natural orifice transluminal endoscopic surgery (NOTES) has gained considerable momentum in today's surgical operative techniques. The innovative idea of accessing the abdominal cavity via natural orifices such as the stomach, rectum, or vagina has the potential to initiate fundamental changes comparable with those brought on by the development of minimally invasive surgery 20 years ago. After the first transgastric NOTES procedure was performed in a pig model by Kalloo et all in 2004, many groups started to develop novel NOTES approaches for clinical application. Initial

reports confirm the safety and feasibility of natural orifice transluminal endoscopic surgery (NOTES) transvaginal cholecystectomy. Benefits of TC include no visible scars, less pain, and shorter recovery.

Materials and Methods:

From January 2012 to September 2016, we collected 55 patients with da Vinci single incision hepatectomy. Perioperative outcomes, including blood loss, transfusion requirements, complications, and length of stay (LOS) were assessed as same as conventional robotic surgery but postoperative pain is less than conventional robotic surgery. All robotic SILS procedures were completed (81/81, 100%). 16 patients with da Vinci total gastrectomy with lymph node dissection. There was 10 gastric cancer and 6 gastric stump cancer. About pancreas surgery, 102 patients underwent da Vinci robotic pancreaticoduodenectomy (RPD) between January 2012 and March 2017 were analyzed by one surgeon. 32 patients underwent conventional robotic pancreaticoduodenectomy, 25 patients with pure robotic single port pancreaticoduodenectomy (RSPPD) and 45 patients with robotic single port plus one pancreaticoduodenectomy (RSPPD+1) technique were performed.

From July 2015 to September 2017, 14 patients performed NOTES cholecystectomy. We use single port platform such as Glove port, Lagis port and GelPoint. The port was introduced through the posterior vagina into the cul-de-sac. The gallbladder was visualized using an endoscope introduced through the vaginal port. Without extracorporeal stay sutures for retraction. The cystic duct and artery were dissected free, clipped, and divided by instruments. The gallbladder was then removed through the vaginal port.

Results:

All procedure were safely performed under the da Vinci Si system. robotic SILS procedures were completed (55/55, 100%). The hepatectomy was safely performed in average operating times of 95 min (± 25), with minimal blood loss. There was 46 pure single port hepatectomy and 9 single port plus one (LAGIPORT: 12, Glove Port: 38, Gelpoint: 5). There were no conversions and no extension of the skin incision. Median hospital stay were 8 days (range: 5~13 days). The RSPTG were safely performed in average operating times of 230 min (± 45). There was no conversion to open approach, one wound infections, minimal blood loss. One pneumonia with medical treatment. Median lymph node dissection number was 26 (arrange: 21~ 72). Median hospital stay was 12 days (arrange: 10~ 20 days). 4 patients with conversion to single port plus one occurred. The robotic group had a significantly longer operative time (mean: 405 min), reduced blood loss (mean: 480 cc), and shorter hospital stay (mean: 25.5 days).

The pure RSPPD group had a significantly longer operative time (mean: 395 min). The RSPPD+1 group with shorter operative time (mean: 336 min), more blood loss (mean: 480 cc), and hospital stay with no difference (mean: 25.5 days). Postoperative complications showed pancreatic leakage, pneumonia (RPD: 1), postoperative bleeding (RPD: 1, RSPPD: 1, RSPPD+1 : 1), wound infection and mortality (RPD: 1, RSPPD+1 : 3).

14 patients underwent a successful NOTES cholecystectomy. The average age was 34.9 years (27-65 years), average body mass index was 27.6 kg/m² (17.2-35.1 kg/m²), and the mean operative time was 70.4 minutes (48-118 minutes).

Conclusion:

Robotic single incision surgery in HBP and GI surgery is technically feasible and safe in well selected patients. Using the commercial port such as LAGIS Port (Taiwan), Gelpoint (USA) and Glove port (S. Korea) as a single-incision access platform. Robotic SILS is easily established and is enormously advantageous to the well selected patient.

RPD, RSPPD and RSPPD+1 allows the resection of time-tested techniques for open peripancreatic surgery through a minimally invasive approach. The robotic system combined with single port platforms are able to overcome the current limitations of laparoscopic single port surgery including limited range of motion, poor surgeon ergonomics, and lack of 3-D view. This study showed that RSPPD and RSPPD+1 were safe and feasible in appropriately selected patients. NOTES cholecystectomy is a safe, feasible in well selected patients.

S2-1

Fecal microbiota transplantation in Taiwan

Chun-Ying Wu, MD, PhD, MPH, LL.M.

President, Taiwan Microbiota Consortium

Chief, Division of Translational Research

Professor, Division of Gastroenterology & Hepatology

Microbiota is associated with many human diseases, such as obesity, metabolic syndrome, cardiovascular diseases, cancer, autoimmune diseases, psychiatric diseases, etc. Fecal microbiota transplantation (FMT) is a measure to transfer gut microbiota from healthy donors to recipients to treat human diseases. The efficacy of FMT has been confirmed in treating recurrent and refractory *Clostridium difficile* infection, and also suggested in several diseases, such as inflammatory bowel diseases, hepatic encephalopathy, etc.

To promote FMT in clinical practice and also in medical research, Taiwan Microbiota Consortium (TMC) has devoted many efforts in establishing Taiwan FMT Consensus in March 2018 after one year's full discussion. Taiwan FMT Consensus has several distinct characteristics as follows. First, it is the first FMT consensus in Asia. Second, the Consensus is made by multiple stakeholders, including medical experts, government officers, clinical physicians, and also public media. Third, the Consensus assures FMT quality via government monitoring. Taiwan FMT Consensus includes several important parts: FMT indications, FMT donor selection, FMT center implementation, FMT material preparation and delivery, post-FMT monitoring and registration.

About half a year after TMC announcing Taiwan FMT Consensus, Taiwan's Ministry of Health and Welfare announced FMT as a new technology regulated by Special Regulation in September 2018. The FMT Special Regulation is exactly the same as TMC's Taiwan FMT Consensus. According to FMT Special Regulation, TMC provided certificated training courses for more than 300 health care providers who plan to conduct FMT in Taiwan. It is a great success for TMC to create such a friendly environment for doing FMT and wish it opens a new ear for more important microbiota clinical studies.

In this talk, Taiwan FMT Consensus and Special Regulation will be introduced and discussed.

For those having interesting to do FMT or to know the new development of FMT, this lecture should be a not-missing one.

S2-2

從腸腦軸(Gut-Brain)到腸心軸(Gut-Heart Axis)

吳明賢理事長

消化醫學會理事長

台大醫院內科部主任

過去腸道功能性疾病，如大腸激燥症(irritable bowel syndrome)，被認為是腸-腦軸線(Gut-Brain Axis)失衡的結果，大腦及腸道彼此透過神經、內分泌及免疫而互相影響。隨著腸道微生物態(gut microbiota)的研究進展，目前已知腸道微生物態在腸腦軸線扮演關鍵角色，其 dysbiosis 不僅會造成功能性腸胃疾病，也和發炎性大腸疾病及大腸癌有關，甚至也是大腦的神經及精神病的原因。隨著對腸道微生物態研究的進展，有愈來愈多的證據顯示 dysbiosis 也是造成慢性病，如肥胖、糖尿病和心臟的主因，尤其和心臟病有關的代謝物 TMAO，必須透過腸道微生物及所謂的 Gut-Heart Axis 產生，因此研究腸道微生物態的失調將可提供未來預防及治療冠心病的新方向。

S3-1

Advances in the treatment of chronic hepatitis B and C in Taiwan

Chia-Yen Dai M.D., PhD.

Professor, Department of Internal Medicine

Kaohsiung Medical University Hospital, Kaohsiung Medical University

Hepatitis B (HBV) and C virus (HCV) infection may result in long-term liver complication including cirrhosis or hepatocellular carcinoma. Taiwan is an endemic country with 12-18% in adults and 3-4% of prevalence of HBsAg and anti-HCV, respectively. With the launch of the universal HB vaccination since 1985, the prevalence of HBsAg decreased to less than 1%. The prevalence of HCV infection varies geographically with some hyperendemic area with prevalence of anti-HCV more than 20% identified in Taiwan

The goal of treatment of HBV and HCV-infected patients is to eradicate or suppress the viral replication, which may reduce the all-cause mortality and liver related health adverse consequences, including end-stage liver disease and hepatocellular carcinoma.

For CHB, the finite interferon and long-term nucleo(t)side analogues (NUCs) are the current effective therapy. The endpoint is loss of HBsAg which is not common achieved. By the suppression of HBV DNA, reversion of the inflammation and fibrosis become achievable. The Taiwanese National Health Insurance has reimbursed the interferon and NUCs regimen with different duration according to the clinical parameters. New medications are necessary to achieve cure of CHB. With developed regimens for CHC, a high SVR rate was achieved by the pegylated interferon/ribavirin therapy, particularly in Taiwan. Currently all oral DAA therapy achieved a very high sustained

virological response (SVR) rate with fewer adverse effects than IFN. New generation pan-genotypic DAAs has become the major regimens for CHC. Further refining the individualized therapy seems necessary after the all oral DAA therapy or the new generation DAAs are available for patients. The Taiwanese National Health Insurance has reimbursed all-oral DAA regimens for HCV since 2017 for the patients with advanced fibrosis and cirrhosis. The very high SVR rate is achieved with less adverse effects. Careful evaluation of the patients' conditions before and after therapy is mandatory. Elimination of HCV infection by 2030 is the major task supported by WHO. The war against HCV infection has a quite good success now and keeps going which needs the team work of all the professionals, government and non-government organizations.

S3-2

幽門螺旋桿菌除菌治療：過去、現在與未來

Anti-*H pylori* therapy : past, present and future

Ping-I Hsu

Division of Gastroenterology and Hepatology, Department of Internal Medicine, Kaohsiung Veterans General Hospital and National Yang-Ming University, Kaohsiung, Taiwan

With the rising prevalence of antimicrobial resistance, the eradication rate of standard triple therapy has recently declined to unacceptable levels, and anti-*H pylori* treatment is continuing to be a great challenge for physicians in clinical practice. The Real-world Practice & Expectation of Asia-Pacific Physicians and Patients in *Helicobacter Pylori* Eradication (REAP-HP) Survey demonstrated that the accepted minimal eradication rate of anti-*H pylori* regimen in *H pylori*-infected patients was 91%. The Kyoto Consensus Report on *Helicobacter Pylori* Gastritis also recommended that, within any region, only regimens which reliably produce eradication rates of $\geq 90\%$ in that population should be used for empirical treatment.

In regions with low ($< 10\%$) clarithromycin resistance, 14-day hybrid (or reverse hybrid), 10~14-day sequential, 7~14-day concomitant, 10~14-day bismuth quadruple or 14-day triple therapy can achieve a high eradication rate in the first-line treatment of *H pylori* infection. However, in areas with high ($\geq 10\%$) clarithromycin resistance, standard triple therapy should be abandon because of low eradication efficacy, and 14-day hybrid (or reverse hybrid), 7~14-day concomitant or 10~14-day bismuth quadruple therapy are the recommended regimens. If no recent data of local antibiotic resistances of *H. pylori* strains are available, universal high efficacy regimens such as 14-day hybrid (or reverse hybrid), 7~14-day concomitant or 10~14-day bismuth quadruple therapy can be adopted to meet the recommendation of consensus report and patients' expectation.

Current updated second-line therapies include bismuth quadruple therapy, fluoroquinolone-amoxicillin triple therapy, fluoroquinolone-amoxicillin quadruple therapy, tetracycline-levofloxacin (TL) quadruple therapy and high-dose dual therapy. Ten-day TL quadruple therapy has a great potential to become a universal rescue treatment following eradication failure by all first-line eradication regimens for *H pylori* infection.

Most guidelines suggest that patients requiring third-line therapy should be referred to medical

center and treated according to the antibiotic susceptibility test. Nonetheless, an empirical therapy (such as levofloxacin-containing, rifabutin-containing, or furazolidone-containing therapies) can be employed to terminate *H pylori* infection if antimicrobial sensitivity data are unavailable.

S4-1

論文寫作的倫理議題

蔡文展教授

高雄醫學大學附設中和紀念醫院

論文寫作的目的無非是反映科學的邏輯與知識產生的程序，傳達科學工作的理念和事實，藉此改變普世的價值並提升生命的品質，相對而來的是藉著論文的寫作取得學位，成為升等及地位提升一個手段。因此嚴謹的內容必須遵循一定格式，立論邏輯清晰且內容數據精確，文獻引述必須周全，不幸的是，近年來由於功利主義的抬頭，同儕之間競爭劇烈，為了達到升等的目的及學位的取得，甚至有些人為了提升自己的學術界的影響力，在論文的寫作上動了一些手腳，抄襲剽竊，捏造，篡改數據，隱藏資訊內容等等行為不一而是，同時有些學者，對於論文作者的排名與列名當作一種手段，成為個人影響力發揮的提升。這些不當的行為，常使學術界蒙羞，社會對於研究成果普遍信心不足，惡性循環下，學術無法深耕，造成人才與資源浪費。

如何導正這些行為，必須從人才培育，學術倫理的教育論述開始，嚴懲不法之徒，從根做起，藉由取消學位認證，撤銷升等資格，甚至開除，解聘等手段宣示學術單位的決心，此外網路資訊的發達會讓資料取得複製更為容易，加速學術倫理的向下沈淪，如何改善這股歪風，刻不容緩。

S4-2

病人自主與醫療決定-案例分析

王伊忱律師

耀門法律事務所

自主原則為醫學倫理之重要原則，隨著醫療日益進步，教育之提升與個人權利意識之提高，及追求個人之價值，病人要求知道愈多之醫療資訊及享有愈多之醫療決策權。醫師須對病患提供充分告知，使病患面對醫療選擇時，充分瞭解醫療行為之目的，過程和風險後，作出出於自願而同意之醫療決定。病人之醫療決定也受到病人本身之特質、家屬之意見與醫病間之溝通互動等多重因素之影響，因此醫療人員在協助病人作出醫療決定時，如何更落實自主原則且符合病人之最大利益，為重要之課題，我國法律就病人自主相關之規定見於醫療法及其他法規，且「病人自主權利法」已於 108 年 1 月 6 日正式施行，是保障病人自主權利的專法。惟醫療施行過程中就告知說明之方式，行使同意權之對象、拒絕治療或代理決定等，仍會衍生相當多之爭議，本文將以案例分析分享實務上有關病人自主及醫療決定實務見解，並兼以論述病人自主權利法等之相關法律規定及其施行於實務上所可能產生之影響。

S4-3

醫療糾紛之相關民、刑事責任

張貽琮

臺灣高雄地方檢察署

醫療行為遇有糾紛，常引發相關之民、刑事訴訟，而民事、刑事訴訟雖各自獨立，然仍具有證據共通之關連性。

民事訴訟中，因醫療法第 82 條之規定，目前實務見解多已肯認醫療行為無消費者保護法無過失責任之適用，然過失責任如何認定及相關舉證責任如何分配，誠屬民事訴訟中常見之難題。另就刑事部分，術後之觀察義務為何、病人出院後不久死亡、醫師未親自看診即給藥等問題亦屬常見，此部分以個案探討之方式，探討目前實務之看法，期能減少類此醫療爭議及糾紛之發生。

S4-4

戒癮心思維—高雄地檢署戒癮治療策略簡介

陳筱茜檢察官

高雄地方檢察署

高雄地方檢察署自 107 年 3 月起推行「零毒害多元司法處遇計劃」，從緝毒、戒毒、反毒各面向著手，全方位拒毒。在緝毒方面，發動多次「安居專案」，成功掃蕩大高雄地區藥頭，切斷毒品供給端，進而全面引進戒癮治療。在戒毒方面，以地檢署為中心，建立毒品戒癮治療平台，主導整合現有司法、醫療衛生及社區等資源，期許為戒癮者提供更多元且符合個別需要之治療處遇方案，協助吸毒者早日復歸社會，進而降低犯罪比率。另在反毒部分，則深入校園及社區，有別於傳統，提出創新的查緝式反毒宣導，藉全民參與的力量，建立友善通報網，建構健康綿密的警民關係，以達幸福城市、無毒家園的目標。

S5-1

轉變中的醫學：挑戰與機會

吳明賢主任

臺大醫院內科部

臨床醫療收集病患完整的病史，身體檢查及各項實驗數據，由醫師做出綜合整理，根據所學的知識與個人臨床經驗做出包括病患的診斷、選擇合適的治療及預後的判斷。臨床醫學及病患照顧的這一套模式行之有年，但是隨著全基因組、微生物組、電腦雲端、機器學習的快速進展及醫療大數據的推波助瀾下，可能在 21 世紀會有截然不同的模式。首先是針對病患個人化的精準醫療，觀念上從只考慮宿主的 DNA，進化到同時分析腸道微生物生態所謂的 second genome，此過程中大量的數據已促成生物資訊學的推陳出新。另外過去對醫療資料的處理尋找相關性主要是利用統計方法中的迴歸(regression)，可是隨著電子病歷、個人生活史、各式體學(omic)累積的大量數據，已經超出傳統統計學的迴歸，必須運用類神經網路的深度學習(deep learning)來做運算，以找出解決臨床問題的一套程序(algorithm)，所謂人工智慧即是以此種方式很快利用大數據發展出各式影像診斷，預後的判斷，及病患處理等 algorithm，這種模式和

醫師有不分軒輊的成果，甚至有優於醫師的表現。雖然如此，就大數據和人工智慧於醫療的發展上，仍有一些困難須要克服，包括數據本身的品質和數量，特別是避免數據產出中的各式偏差；另外倫理上的議題，也是受關注的焦點。最後是利用程式及運算產生的 algorithm，常有黑盒子的爭議，也未必有因果關係。雖然有上述的限制，健康大數據的分析和人工智慧的運用，仍會對醫學研究、醫療照顧、醫病關係及醫療教育產生不少新的機會與挑戰。

S5-2

Cartilage Tissue Engineering Turning Research into Products

田英俊院長

高雄醫學大學醫學院

Due to the lack of vascularity and the paucity of undifferentiated cells, articular cartilage has an extremely limited self-healing potential. If a focal cartilage lesion is left untreated, it almost progresses to more extensive defect and later ultimately requires joint replacement surgery. Thus, reparative approaches have been designed to replace the damaged cartilage.

Microfracture procedures provide access to biological healing molecules and mesenchymal stem cells from bone marrow by drilling through subchondral bone into the bone marrow. This allows the bone marrow stem cells to differentiate into chondrocyte-like cells, developing a cartilage layer of tissue at the defect site. However, this approach often results in fibrocartilage formation which is mechanically inferior to articular hyaline cartilage.

Autologous chondrocyte implantation (ACI) uses healthy cartilage harvested from the patient for autologous chondrocyte isolation and their ex vivo expansion. The chondrocytes are then seeded onto the defect site and localized with a periosteal flap or synthetic membrane. Long term postoperative analysis of the defect site has shown varying results, with much of the site being filled with fibrocartilage and Collagen I.

Tissue engineering involving specialized scaffolds that can support bone and cartilage layer regeneration along with the development of native-like bone cartilage interface. The three principal components of tissue engineering are **scaffolds**, **cells**, and **bioactivators**.

1. **Scaffolds**: The optimal scaffold, in addition to being able to support cell attachment, proliferation and in-growth, the scaffold must also withstand functional site loading and must also be able to regenerate tissue that is similar to that of the native tissue. Hybrid materials are now most accepted for building scaffold, which contain natural origin materials to provide the niche for cartilage regeneration and synthetic material to provide mechanical support. On the architectural arrangement, the scaffold has been designed with monophasic, bi-phasic, tri-phasic, gradient configurations.
2. **Cells**: Articular chondrocytes have been extensively used in the past years for autologous chondrocyte transplantation. However, the use of articular chondrocytes is limited by morbidity at the harvest site, the requirement of a second surgical procedure, and cell dedifferentiation due to in vitro expansion.

Substantial clinical information shows the suitability of adult stem cells for cartilage tissue

engineering. These stem cells had been isolated from several tissues: bone marrow, synovium, adipose tissue, periosteum, peripheral blood, and umbilical cord blood, as well as from the inner part of cartilage of the knee.

3. **Bioactivators:** Both chondrocytes and mesenchymal stem cells are troubled with fibroblastic de-differentiation and terminal differentiation to a hypertrophic phenotype in vivo. It is therefore likely that these cell types will require some degree of modulation to be applied successfully. This may be provided by the addition of growth factors such as Transforming growth factor- β (TGF- β), Bone morphogenetic proteins (BMP), Insulin-like growth factor-1 (IGF-I), Fibroblast growth factor, Platelet-derived growth factor, and Vascular endothelial growth factor.

Right now, there are 33 ongoing clinical trials or interventional studies are pursued for the investigation of new approaches in the field of chondral and osteochondral repair studies. Although tissue engineering has already shown tremendous progress, a long and difficult road in the regulatory and legal path has to be travelled in order to transform new therapeutic approaches into a clinical reality.

S5-3

血管內皮生長因子 VEGF 的藥物制放與應用--從心肌修復到腦瘤治療

VEGF Drug Delivery—Potential for Cardiac Repair and Brain Tumor Therapy

Patrick C.H. Hsieh (謝清河), M.D., Ph.D.

Institute of Biomedical Sciences, Academia Sinica (中研院生醫所)

Outline

1. Intramyocardial VEGF delivery promotes arteriogenesis and heart regeneration (Lin YD et al. Science Translational Medicine, 2012)
2. Intramyocardial VEGF modified RNA delivery improves cardiac repair after infarction (Carlsson L et al. Molecular Therapy Methods Clinical Development, 2018)
3. Systemic VEGF delivery transiently opens the blood brain barrier for improving anti-cancer treatment in brain tumor (Lundy DJ et al. ACS Nano, 2018)

S5-4

The future of biologics for immune modulation in allergic diseases

洪志興 副院長

高雄市立小港醫院

The gradually rising prevalence of allergies represents an increasing socioeconomic burden. A understanding of the immunological mechanisms that underlie the development of allergic disease. Improved characterization of individual patients through specific biomarkers and improved definitions of disease endotypes are paving the way for the use of targeted therapeutic approaches for personalized treatment. Biologic therapies that target key molecules driving the Th2 response are already used in the clinic, and a wave of novel drug candidates are under development. In-depth

analysis of the tissues of patients treated with such targeted interventions provides a wealth of information on the mechanisms that drive allergies and tolerance to allergens. Asthma is no longer considered as a single disease and the targeted strategy is part of personalized medicine which aims to better define each patient's phenotype and endotype so as to prescribe the most suitable treatment at an individual level. Severe uncontrolled asthma have high morbidity and healthcare utilization as compared with their peers with well-controlled disease. The emergence of biologic therapies for the treatment of asthma has provided promising targeted therapy for these patients. Biologic therapies target specific inflammatory pathways involved in the pathogenesis of asthma, particularly in patients with an endotype driven by Th2 inflammation. In addition to anti-IgE therapy improved outcomes in allergic asthma for more than a decade, three anti-IL-5 biologics and one anti-IL-4R biologic have recently emerged as promising treatments for Th2 asthma. These targeted therapies reduce asthma exacerbations, improve lung function, reduce oral corticosteroid use, and improve quality of life in appropriately selected patients. In addition to the currently approved biologic agents, several biologics targeting upstream inflammatory mediators are in clinical trials, with possible approval on the horizon. The mechanism of action, indications, expected benefits, and side effects of each of the currently approved biologics for severe uncontrolled asthma and discusses promising therapeutic targets for the future.

S5-5

STK24 driven tumor progression is associated with loss of SMAD4 and promotion of autophagy in PDAC.

Kuang-Hung Cheng¹

¹Institute of Biomedical Sciences, National Sun Yat-Sen University, Kaohsiung, Taiwan 804.

Pancreatic cancer is one of the most lethal malignancy with the highest mortality rate of all types of cancers. Pancreatic ductal adenocarcinoma (PDAC) is the most common type of malignant pancreatic cancer, and is characterized by the mutations of KRAS (95%), INK4a (90%), P53 (50%) and SMAD4 (45%). Identification of novel PDAC oncogenes may provide new avenues for identify potential diagnostic markers and therapeutic targets for the treatment of PDAC. STK24, a mammalian STE20-like serine/threonine protein kinases family member, also named Mammalian STE20-like protein kinase 3 (MST-3), is known to induce cell growth and promote tumor development. However, the role of STK24 in pancreatic development and carcinogenesis to be determined. To study the pathological role of STK24 in PDAC, here we reported that STK24 expression can be induced in PDAC cells by TGF β 1 stimulation *in vitro* and its up-regulation directly correlated with advanced stages and SMAD4 expression status of PDAC. Consequently, we used shRNA to knockdown STK24 expression and demonstrated that STK24 is associated with TGF β 1/Smad4 signaling pathway, cell cycle progression and EMT program in PDAC. Furthermore, we generated novel mutant mice that enable inactivation of STK24 in the context of our well-characterized Pdx-1CreKrasG12D or/and Pdx-1CreKrasG12D p53L/L PDAC models. We found that STK24 loss halted Kras induced pancreatic carcinogenic in mice. Mechanistically, loss of STK24 in PDAC is likely to inhibit the

autophagy during Kras driven pancreatic intra-neoplastic lesions (PanINs) formation, and may lead to prevent the formation and development of PDAC. Thus, the identification of STK24 network components that are essential for tumorigenic growth of PDAC will subsequently be used in the design of preclinical trials that employ therapeutics to target PDAC.

Key words : PDAC , STK24 , Autophagy , GEM models.

S5-6

癌症的免疫治療以及細胞治療

Immuno-Oncology and cell therapy in cancer treatment

蘇裕傑主任

高雄醫學大學附設中和紀念醫院血液腫瘤內科

近幾年來對於癌症的治療，又有一個更新的突破，即是免疫腫瘤治療。說起免疫腫瘤治療基本的想法就是：利用增加病患本身的免疫功能（大多是T淋巴球），來對抗癌細胞。此類的觀念並不是最近才有，在三十年前（1986年）醫界就曾以干擾素（interferon）治療包括淋巴瘤，慢性骨髓性血癌以及黑色素瘤。尤以慢性骨髓性血癌使用干擾素治療，在當時還是首選藥方。幾年之後，有介白素二（interleukine-2, IL-2）用於治療轉移性腎細胞癌及黑色素瘤。此類細胞激素的使用，雖然對於部分癌症成效不錯，然而過大的副作用（憂鬱症，發燒甚至到致命性的肋膜積水及肺積水），以及對於還是限制了此類藥物的使用。之後雖有免疫細胞治療（LKK activated cell）以及抗癌疫苗等發展，不過成效仍然有限，相關研究亦少有進展。直到1995年前後，CTLA-4 以及 PD-1 相關的機制逐漸被重視，使得免疫治療在固態腫瘤（solid cancer），得到新的進展機會。本次課程將簡介目前最為熱門的癌症免疫治療，這個治療的現在過去以及未來的進展。

S6-1

以加值為導向之生技產業投資策略

Value-adding strategy for integrated biotech investment

陳播暉副總經理

日商大和企業投資

投資是決定任何新興產業能否成功的重要關鍵，尤其對技術密集的生技產業來說，資金更是絕對不可或缺的發展動能。在資金投入的過程中，投資者所扮演的角色也與時俱進，不再只是單純擔任資金的提供者，更能夠全面地協助企業成長，以達成互利雙贏的目標。配合著這樣的發展，投資者類型也逐漸多樣化，如何順應生技產業發展的潮流，讓不同的投資者適切的結合企業，以發揮最大綜效並提高企業價值，正是眼前生技產業發展的關鍵課題。

S6-2

生根&突破

Strong foundation and breakthroughs

李志文董事長

杏輝藥品

健保制度壓抑下的台灣，生技產業要獲得高利潤，實屬不易。儘管如此，仍有業者發揮大健康觀念及善用大數據 AI 技術，或者透過 ANDA 申請，突破健保給付門檻，申請高健保價格，獲利並生根本地市場。惟台灣市場囿於人口數，經濟規模有限，為求突破發展藍海策略，唯有進軍歐美，分食主流市場的醫療大餅。然在國際市場想占一席之地，技術、行銷及資金都是關鍵。巧妙運用轉投資方式，方有機會轉型國際化。

S6-3

生技投資新思維

資源整合 ▪ 藥品開發 ▪ 募資

New Paradigm of Biotech Industry investment

Resources Leverage ▪ Drug Development ▪ Fundraising

林榮錦董事長

晟德集團

新藥研發不僅投資成本高、資金大、投資期長且風險高，但許多企業都只看到新藥開發成功後的利益，沒有衡量風險；新藥開發要成功，新藥研發的速度、風險與現金流如何取得平衡才是成敗的關鍵重點，林榮錦先生將透過案例分享來進行深入剖析。

林榮錦先生亦將透過自身經營晟德與順天醫藥的經驗，來分享新藥開發公司如何找到對的發展定位以及商業模式，同時要如何在合適的時機點授權或找到合作夥伴共同投資、取得藥證讓公司逐步增值，在生技產業找到藍海。

台灣由於資本市場有其先天的限制，對於需要長期投資的生技產業來說籌資不易，因此就新藥開發來說，公司必須從項目開發的第一天起，就要知道誰是未來的買家，產品開發的目標要很清晰，也必須知道市場在哪裡，持續強化自身的商業能力，減少公司的財務負擔。林榮錦先生也建議企業必須檢視公司的定位和市場，選擇在特定或適合的市場掛牌，找到對的合作夥伴，才能讓企業穩定成長壯大。

S7-1

手術前運用電腦模擬及 3D 列印技術於骨盆骨折之治療

Preoperative virtual simulation and 3D printing technique for pelvic fracture surgery

葉祖德主任

國防醫學院三軍總醫院醫用 3D 列印中心

PURPOSE:

Treating pelvic fractures remains a challenging task for orthopaedic surgeons. We aimed to evaluate the feasibility, accuracy, and effectiveness of three-dimensional (3D) printing technology and computer-assisted virtual surgery for pre-operative planning in anterior ring fractures of the pelvis. We hypothesized that using 3D printing models would reduce operation time and significantly improve the surgical outcomes of pelvic fracture repair.

METHODS:

We retrospectively reviewed the records of 30 patients with pelvic fractures treated by anterior pelvic fixation with locking plates (14 patients, conventional locking plate fixation; 16 patients, pre-operative virtual simulation with 3D, printing-assisted, pre-contoured, locking plate fixation). We compared operative time, instrumentation time, blood loss, and post-surgical residual displacements, as evaluated on X-ray films, among groups. Statistical analyses evaluated significant differences between the groups for each of these variables.

RESULTS:

The patients treated with the virtual simulation and 3D printing-assisted technique had significantly shorter internal fixation times, shorter surgery duration, and less blood loss (- 57 minutes, - 70 minutes, and - 274 ml, respectively; $P < 0.05$) than patients in the conventional surgery group. However, the post-operative radiological result was similar between groups ($P > 0.05$). The complication rate was less in the 3D printing group (1/16 patients) than in the conventional surgery group (3/14 patients).

CONCLUSION:

The 3D simulation and printing technique is an effective and reliable method for treating anterior pelvic ring fractures. With precise pre-operative planning and accurate execution of the procedures, this time-saving approach can provide a more personalized treatment plan, allowing for a safer orthopaedic surgery.

S7-2

3D 列印醫療創新及應用

The 3D printing innovation in medical applications

方信元主任

中國醫藥大學附設醫院 3D 列印醫療研發中心

China Medical University Hospital is the first healthcare system in Taiwan has fully engaged with 3D printing technology in its clinical diagnosis, surgical assistance and planning and research. A well-integrated research center of including a team of engineering and medical professionals provides CMUH to be a world's premium organization in 3D printing medical field. The vision of CMUH 3D Printing Medical Research Center (3DP MRC) is to develop and deliver advanced and affordable 3D printed medical care including biomedical devices, implants and therapeutics to improve the quality of life of the general public. CMUH 3DP MRC has established a research team inclusive of all topics of clinical applications, medical images, biomaterials, 3D printing fabrication, design for 3D, and regulations. The analysis from those clinical cases with 3DP assistance, the average surgical operation time will reduce to two-third of regular, the medical cost reduction will reach 5-10%, and the surgical operation efficiency will dramatically increase. The benefits and advantages of 3D printing medical application will be demonstrated and concluded in this presentation.

S8-1

神經肌肉疾病之診斷及全人照護

Diagnosis and multidisciplinary care of neuromuscular diseases

梁文貞醫師/助理教授

高雄醫學大學附設中和紀念醫院小兒部

Neuromuscular disease (NMD) is a disease entity consists of the disorders involved in lower motor neuron, peripheral nerve, neuromuscular junction and muscle. Most of them are hereditary diseases but some are required such as autoimmune-related myasthenia gravis and myositis. The clinical course of NMD is usually progressive which culminates in marked motor function impairment and complications involved in multiple systems. The NMDs thus result in the physical, psychogenic and economic burden of not only patients themselves, but their families and whole society. To date, effective therapy is available for only a few NMDs; patients and families therefore often drop regular medical visit and neglect the importance of standard care. In fact, even the most effective drugs could not reverse the majority of complications, such as scoliosis, joint contracture, respiratory failure etc. For that reason, multidisciplinary standard care provided by medical team together with patients' associations, non-profit organizations and Governmental bureaus could play an important and practical role to prevent, identify or ameliorate these complications. The final goal to be achieved is therefore to improve the life quality of patients and families, and to further reduce the waste of medical and social resource for taking care of severe complications.

S8-2

醫師在兒童虐待與疏忽防治上應扮演的角色

徐仲豪

高雄醫學大學附設中和紀念醫院 兒科部

兒童虐待：兒科醫師最深的痛

身為兒科醫師，總認為每個兒童都是父母的心肝寶貝，而避免讓兒童受到身心的創傷更是我們的天職，無法想像有哪個父母或保母會狠心虐待天真無邪的幼童。然而根據衛福部統計，2017年全台累計通報的受虐個案已經接近6萬人，平均每9分鐘就有一個小孩被通報，而且在106年虐待通報死亡數創新高的155人，高醫有鑑於兒虐問題之嚴重性，成立高醫兒少保行動團隊多年，守護受虐兒，捍衛他們微笑的權利。

高醫兒少保行動團隊簡介

高雄醫學大學附設醫院長期處理重大與高度複雜的兒虐個案。高醫於100年設立法醫病理科，103年7月由高雄市政府與高醫合作於高醫急診處設立高雄市兒童少年驗傷醫療整合中心，此創舉為全國首創。103年9月獲衛福部心口司協助成立兒少保護醫療服務示範中心，由當時家庭醫學科黃志中部長(現為高雄市衛生局局長)領導將服務範圍從南區各醫學中心帶至社區及學校，豐碩的成果備受肯定且成為法務部囑託鑑定機構。高醫團隊之後並於104年至107年連續獲得衛福部兒科重難症獎勵計畫的殊榮，107年起成為衛福部高屏兒少保整合醫療中心，並於獲瑞信兒童基金會醫療奉獻獎，成為全國頂尖之兒少保團隊。

高醫兒少保團隊在高雄社會局家防中心的支持下，從 103 年 7 月起成立全國唯一的兒童少年驗傷醫療整合中心，開創了許多醫療與社政的合作服務範圍，其中包括：(一)與南部其他醫院成立了一個南區兒少保完整醫療社政網絡。(二)以整合中心為基礎成立外展團隊。(三)配合社會局重大兒虐事件並快速啟動檢調介入之機制。詳細說明如下。

(一)南區兒少保完整醫療社政網絡

南區兒少保的網絡結合社政單位與各大醫療院所：社政方面以社會局為中心，醫療方面以高醫整合中心為首，結合高雄長庚、高雄榮總及義大醫院成立一個完整的兒少照護網絡。網絡互相交流活動包含：定期舉辦個案研討會，視個案需求不定期舉辦爭議案件專家研討會，並定期更新網絡中成員的處遇個案的標準流程。除此之外，高醫整合中心並接受社會局或地檢署委託，協助南區來自社區、學校或其他安置機構中，需要驗傷治療或鑑定之個案，也因此成為高雄地方法院檢察署及橋頭地方法院檢察署概括指定之鑑定機關，協助南區地檢署偵查中之兒童及少年虐待案件有關被害人傷勢之法醫病理鑑定及被害人受創之精神鑑定，每個個案驗傷後皆提供之法醫驗傷鑑定報告，提供司法單位辦案有效且即時的依據。自 103 年 7 月起至 108 年 4 月止，高醫兒少鑑定中心接受社會局委託驗傷鑑定之個案已達 140 案。

(二)高醫兒少保外展行動團隊

針對具有爭議性、急迫性或重症卻無法前來整合中心驗傷的個案，高醫特別成立一個外展行動團隊，前往社區或其他醫院驗傷，模擬現場，並提供醫療諮詢。此外展行動團隊成員包含高醫三位醫師：小兒重症醫師、法醫師與影像科或骨科醫師。此團隊成員可隨時啟動，協助社會局家防中心，不定期視個案所需前往高醫院外，主要目的為加速複雜且重症個案社政之後續處遇與檢警之適時介入，並在外展後出具一份完整詳盡之法醫驗傷鑑定報告，提供社政與法政單位後續處遇及搜證執法的依據。此外展團隊為全國首創，自 103 年 7 月至今已協助鑑定 30 個案，其中 18 個案皆已啟動司法調查。

(三)高雄市重大兒少受虐致重傷害案件處理流程

在某些重大兒虐傷害中，由於驗傷鑑定的延遲，可能造成證據消退而無法及時將加害人定罪或將受虐者隔離，並可能造成再次傷害，甚至不幸悲劇的發生。有鑑於此，高雄市社會局家防中心特別在民國 105 年起，結合高醫兒少保驗傷整合中心、偵查隊與地檢署，制定了一套高雄市重大兒少受虐致重傷害案件處理流程(如圖 9)。希望藉由第一線社工或醫療人員在發現重大兒虐致重傷害時，可以即時啟動檢調介入，而非依循一般司法途徑處理，使犯罪證據消失之前就能且更具有時效性地啟動檢警偵查機制。此機制為藉由高醫驗傷整合中心與社工確認受虐個案兒少符合其重大傷害條件(如表一)後，由社會局社工直接呈報值班婦幼專組檢察官，並指揮偵查隊與婦幼隊警務人員直接介入偵辦，並藉此加速對受虐者的隔離安置，與對潛在加害者之偵察與訊問，讓正義得以伸張。目前為止本機制為全國獨創，已起訴多名加害人甚至包含三審定讞者，其中一名加害者經由啟動此機制至重傷害罪起訴時間僅僅三個月。

結語

完整的兒少保護工作網絡需要衛政醫療、社政、警政與司法的整合。高醫在處理兒少保護案件以兒少驗傷整合中心為基礎，透過醫療、社政、司法的結合方式：在醫療端整合院內各專科並提供一站式服務、在社政端與高雄市社會局形成密切的網絡並提供外展服務、在司法端提供法醫驗傷鑑定書並加速檢警介入的啟動流程，藉由此跨領域合作，期待能讓高醫兒少行動保團隊與社政、警政、司法界夥伴，讓社會更重視兒少保護問題，一起守護台灣的受虐

兒童們，捍衛他們微笑的權利。

S8-3

婦女尿失禁與子宮膀胱脫垂治療的新趨勢

The new trends of surgical treatment for pelvic organ prolapse

龍震宇副院長

高雄市立小港醫院

女人一生中骨盆器官脫垂的盛行率在 30 到 50%，最初的主訴通常為感覺到陰道內好像摸到一顆像雞蛋或水球的東西，在 80 歲前約十分之一的婦女因此而接受手術。造成骨盆器官脫垂及應力性尿失禁的原因有很多，包括了先天異常、年齡、生產、長時間用力、咳嗽、提肛肌無力和神經受傷等等，這些都會造成骨盆器官脫垂和應力性尿失禁。近年來由於材料科學的不斷進步，大部分婦女應力性尿失禁和子宮膀胱脫垂手術多以置放人工網膜或吊帶來完成。許多醫療公司的人工網膜已經發展到了一定的程度；而不論選擇了哪家公司，對於陰道壁脫垂的修補手術不外乎是經由陰道或腹腔鏡來固定。

婦女尿失禁手術

輕微或中等程度的尿失禁可以凱格爾運動或物理治療，包括生理回饋、電刺激或磁波椅來改善骨盆底肌肉功能，近年來風行的陰道雷射亦不失為一治療選擇。比較嚴重的或已影響生活品質患者，可考慮開刀治療。

尿失禁手術的里程碑可從 1996 年瑞典的 Ulmsten 教授提出 TVT (Tension-free Vaginal Tape)手術開始，將一條人工網膜吊帶置放在尿道中段，當患者用力時，尿道下方會受到壓迫而防止漏尿，手術後 17 年的成功率仍高達 90%。此種尿道中段懸吊術(midurethral sling)目前已成尿失禁的主流手術方法，經過多次的改良，已發展到最新無皮膚傷口的尿失禁手術手術，時間僅需 10-15 分鐘，患者幾乎無疼痛感，恢復更快。

婦女骨盆脫垂重建手術

這幾年來婦女骨盆重建手術蓬勃發展，目前兩大手術的主流是，以微創的手術方式經由陰道或腹腔鏡置放人工網膜施行脫垂懸吊手術。經陰道脫垂手術是使用套針直接穿過薦骨棘韌帶(sacrospinous ligament)，將一片人工網膜置於前側陰道壁內，將膀胱及子宮一併向上懸吊於陰道內的正常位置，手術時間僅需 30 分鐘。若是經由腹部的骨盆重建手術，多採微創腹腔鏡手術進行，甚至達文西機器手臂進行手術(Robotic surgery)，也是使用一片人工網膜固定在子宮頸或陰道壁來做懸吊，一般在術後 2 天可出院。目前高醫及小港醫院已執行經陰道人工網膜懸吊手術逾千例，腹腔鏡人工網膜懸吊手術近百例，短期成功率可達 90% 以上，病患相當滿意。

要注意的情形是骨盆腔脫垂合併隱藏性應力性尿失禁(occult stress urinary incontinence)的情形，在術前應先以紗布將脫垂器官塞回陰道重複一次尿路動力學的檢查，以預測術後是否會發生應力性尿失禁的可能性，如果有漏尿的情形，合併中段尿道的尿失禁吊帶手術將不可避免。另一須注意的是人工網膜陰道外露的情形，幸好第三代人工網膜較小片，材質也較輕薄細緻，不容易網膜外露(2-3%) 而有性交疼痛的問題。

結語

婦產科醫師應依照病人的症狀、年齡、健康狀況、解尿、排便及性生活的需求來為每個病人量身訂做最適合的術式，目前文獻上顯示，使用最新材質的人工網膜來做尿失禁或子宮膀胱脫垂手術已是一個全世界共通的做法，短期效果相當好，但仍需進一步更長期的研究來追蹤。

S8-4

產後照護新趨勢

Modern postnatal care in Taiwan

詹德富主任

高雄醫學大學附設中和紀念醫院婦產部

The period of time immediately following childbirth is critical for the long-term health and wellbeing for the postpartum woman and her infant. This so-called “fourth trimester” is when the woman adapts to multiple physical, social, and psychology transformations in the face of considerable challenges, such as sleep deprivation, fatigue, pain, breastfeeding frustrations, stress, and exacerbated or newly onset psychological disorders. In traditional Taiwanese families, members are numerous across generations. They provide timely and integral support for the postpartum woman, such as diet preparation, child caring or promptly detection of any abnormality in the newly mothered. However, time changes and so does family structures in society at large. It is common for couples nowadays to establish their own household away from the originated family. Thus family support is scarce, leaving the postpartum woman struggling on her own. This is when postpartum care services come into play and the reason why postpartum care centers thrive in Taiwan in recent years. Postpartum women are registered in to these specialized facilities, where comprehensive care for smooth, unpressured recovery and instructions of baby care skills are given. More importantly, the services are essential sentinels for screening women for baby blue, lactation difficulties, caregiver immunization candidates and women’s wellbeing in general. For women with higher risks, such as those with preterm birth, gestational diabetes, or hypertensive disorders, this is the ideal time for counselling and early intervention due to higher lifetime risk of cardiovascular or metabolic diseases. Taiwanese experience with postpartum care centers will be shared.