歐朝士

(P1)

CURRICULUM VITAE

歐朝士

Education:

(1) Chang– Shan university medical school in Taichung Taiwan Graduated M.D.

(2) University Washington medical school in Seattle Washington public health cancer epidemiology M.P.H.

Training & Experience:

(1) Downstate university medical school affiliated brook dale hospital in Brooklyn New York City. General surgery Residents.

(2) Albert Einstein University medical school affiliated Bronx Lebanon hospital in Bronx New York City. OB/Gyn residents.

(3) Group Health medical center (now Kaiser Permanent medical center in Seattle) in Seattle Washington. General surgery and OB/Gyn Physician. Clinical Faculty UW medical school.

(4) University Washington medical school northwest medical center. Clinical faculty and Physician.

(5) Yuen’ s General Hospital in Kaohsiung Taiwan Part time consultant Physician.

Facts (differences) in Laparoscopic & Robotic surgery between Taiwan and U.S.A.

歐朝士　教授

Laparoscopic Surgery range of surgical techniques performed through small metal or plastic ports inserted through short incisions in the skin. The instruments are externally controlled and the operation site is internally illuminated and is commonly viewed on a computer- monitor. Since much of post-operative mortality relates to the use of large skin and muscle incisions, this method is popular with patients and substantially shortens recovery time. Older surgeons must master some entirely new techniques and adapt to the change in the relationship of hand and eye. The method is rapidly replacing earlier and cruder method.

Robotic surgery continues to diffuse across an increasingly broad range of surgical procedures. However, concerns have been raised that robotic surgery is more costly and may be no more effective than other established operative approaches, such as traditional laparoscopic minimally invasive and open surgery. With respect to costs, for example, robotic surgery has been associated with episode costs as much as 25% higher compared with laparoscopic surgery. There are also concerns about the rapid growth of robotic surgery in areas with limited evidence to support its use and little theoretical benefit or clinical rationale (e.g., inguinal hernia repair). The US Food and Drug Administration (FDA) recently issued a warning against the use of robotic surgery for the treatment of breast and cervical cancers.5 In their communication, they expressed concerns about the lack of epidemiologic data characterizing the use of robotic surgery in real-world practice settings. Current estimates are limited to single-center studies, device manufacturers' financial statements, and claims data, which may be inaccurate owing to unreliable coding. We used population-based data from a manually abstracted statewide clinical registry to characterize contemporary trends in the adoption of robotic surgery across a range of general surgical procedures, which now represent the largest market for the technology in the United States.

When all influence factors are taken into account, robotic surgery need not necessarily be more expensive than open and laparoscopic surgery. Even for demanding visceral surgery procedures, the perioperative complication rate for robotic surgery is not higher than for open or laparoscopic surgical procedures. In cancer cases, the oncological accuracy of robotic resection for gastric, pancreatic, and rectal resection is seen to be adequate. Only the operating time is generally longer than for standard laparoscopic and open procedures. But, on the other hand, in some procedures blood loss is less, conversion rates are lower, and hospital stay shorter.

To evaluate the future role of the robotic technique for visceral surgery, high-quality prospective randomized trials are urgently needed. To that effect, surgeons should definitely have mastered the learning curve. But already the existing evidence indicates that robotic surgery will have a permanent future role in visceral surgery. Therefore, visceral surgeons should actively contribute to further development of robotic surgery and initiate high-quality comparative studies in this area.

The most common question asked of us about robotic surgery is whether or not the robot is better. The short answer is "it depends." While the robot is being used for a large number and many types of procedures, there are really only a handful of surgeries where using the robot is actually considered an advantage over traditional laparoscopic surgery. Some examples of procedures that are almost exclusively done using the robot these days are prostate surgery, hysterectomies, lung resections, and Nissen fundoplication. While the robot is sometimes used for more "routine" surgeries like hernia repairs and gallbladder surgery, there is no clinical benefit in using the robot in these situations, but there is often a greater cost to the patient as very few robotic procedures are done in outpatient surgery centers where costs for surgeries are typically less than at inpatient facilities.

The most important thing to remember when deciding which type of surgery is best for you is that you are a unique individual, and as such the factors that should be considered are also unique to you. As such, you should always discuss the different options with the surgeon who will actually be performing your surgery. Do not rely solely on "Dr. Google" or your primary care physician or your friends/family to make your decision, as while they can all be helpful, none of them will have as much knowledge about the procedure you are considering as will the surgeon who will be doing it. As such, it is very important to find someone you feel comfortable with who can help tailor the surgical technique used to your unique needs.

With surgical tool improved. It should be beneficial to patient as well as health care provider. But there are culturally different, each country with their own health care system. Hopefully advance medicine wouldn't make extra economic burden at all when they make decision what to use before surgery.

曹芳海

(P2)

CURRICULUM VITAE

曹芳海

現職:

工業技術研究院 南分院 執行長 2022-迄今

學歷:

美國喬治亞理工學院 航太博士 1988

美國喬治亞理工學院 航太碩士 1986

國立成功大學 航空學士 1982

經歷:

工業技術研究院 雷射與積層製造科技中心 執行長	2016-2022
工業技術研究院 南分院 副執行長	2013-2016
工業技術研究院 綠能與生態中心 主任	2012-2013
中強光電集團 揚光綠能公司 協理/技術長	2010-2012
工業技術研究院 綠能與環境研究所 正研究員	2000-2009
標準檢驗局國家標準技術委員會 電機工程標準委員	2005-2009
亞太經合會能源工作組 能源效率與節能專家分組主席	2002-2005
工業技術研究院 綠能與環境研究所 主任	1991-2009
美國加州大學(UC Irvine) 助理專家(Assistant Specialist)	1988-1991

3D 列印醫療應用及未來

曹芳海
工業技術研究院 南分院 執行長

積層製造(Additive Manufacturing)一般又簡稱 3D 列印(對岸則稱為增材製造)，顧名思義是將材料以特定方式堆砌成形，有別於傳統從塊材的切/削/鑽/刨之去除式製造方法，也不同於模具製造的方法(雖然 3D 列印也可用來製作模具)。3D 列印近十多年來已從模型製作進化到零組件/模具/產品的直接製造階段，凡屬性上是少量多樣、個體化需求或特殊功能/功用者，都適合進行 3D 列印製造，製作技術資料的數位化更代表可靠度高、設計改變容易、大幅縮短 prototyping 的時間與費用。本次分享包含積層製造技術進展、國內發展狀態及如何與工研院的醫材 3D 列印合作。

李秉穎

(P3)

CURRICULUM VITAE

李秉穎

現職：

1997/8 - 迄今	國立台灣大學醫學院小兒科副教授
1990 - 迄今	國立台灣大學醫學院附設醫院小兒部主治醫師
2020 - 迄今	台灣疫苗推動協會榮譽理事長
2013 - 迄今	行政院衛生福利部疾病管制署預防接種諮詢小組召集人
2017 - 迄今	亞洲鏈球菌預防策略聯盟主席
2020 - 迄今	嚴重特殊傳染性肺炎中央流行疫情指揮中心「嚴重特殊傳染性肺炎專家諮詢會」委員

學歷：

1976/9 - 1993/6	國立台灣大學醫學系學士
1990/9 - 1998/1	國立台灣大學臨床醫學研究所博士

經歷：

1985/8 - 1990/7	台大醫院小兒部住院醫師
2010/9 - 2012/11	亞洲兒童感染症學會主席
2008/4 - 2017/4	台灣兒科醫學會秘書長
2013 - 2020	台灣疫苗推動協會理事長
2018 - 2020	台灣兒童感染症醫學會理事長

專長：兒童感染症、疫苗學、病毒學

Prevention of COVID-19

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COVID-19 is caused by SARS-CoV-2. Severe illness occurs in 10%– 20% of patients with a mortality of 2%– 4%. The illness is reported to be mild in children. Taiwan has been very successful in controlling COVID-19. One of the major reasons is an immediate and rapid response. To prevent droplet transmission, regular wearing of a face mask is recommended. Analyzing global data on the incidence and the mortality of COVID-19, it appears that countries emphasizing social distancing but not wearing face mask tend to have a more severe outbreak.

To prevent contact transmission, people are advised to wash their hands frequently. Public places are disinfected regularly, especial for those frequently touched by people. Public awareness of effective preventive measures against COVID-19 contribute to the control of COVID-19 in Taiwan. Key elements for a successful control of COVID-19 have been wearing face mask, no touch of eye/nose/ear, hand washing, and environmental disinfection.

COVID-19 vaccines used in Taiwan include RNA vaccine, adenovirus-vectored vaccine, and protein subunit vaccine. RNA vaccines are highly immunogenic with high T-cell responses. They are associated with relatively high incidences of adverse reactions. There are some unique adverse reactions, including a higher incidence of anaphylaxis, delayed cutaneous hypersensitivity, and myocarditis/pericarditis. A high immune response and the association with some unique reactions may both be related to a high T-cell response and possible dissemination of the vaccine.

Adenovirus-vectored vaccines can also induce a high T-cell response. Antibody response after repeated dose may be hampered by adenovirus antibody induced by the first dose. This type of vaccine is also associated with some unigue reactions, including a higher incidence of anaphylaxis, delayed cutaneous hypersensitivity, and thrombosis with thrombocytopenic syndrome. The associations with these reactions may both be related to a high T-cell response and possible dissemination of the vaccine.

Protein subunit vaccines are vaccine made by traditional technology. After adding adjuvant(s), the immunogenicity is similar or slightly lower than that of RNA vaccines. They are characterized by high safety profiles and satisfactory protection.

杜元坤

(P4)

CURRICULUM VITAE

杜元坤 Yuan-Kun Tu, MD. PhD

Medical Education:

Taipei Medical University; School of Medicine

Mayo Clinic, Medical Graduate school, Research fellow.

Cheng Kung University, Graduate School of Medical Engineering. PhD

Professional affiliations:

1. Professor in Orthopedic & Medical Engineerings, E-DA hospital/ I-Shou University
2. Professor, Department of Medicine, I-Shou medical school / University
3. Superintendent, E-DA hospital / I-Shou University.
4. President, Taiwan hand surgery society (2006-08)
5. President, Taiwan orthopedic trauma society (2010-12)
6. AO Trustee, (2012-2016)
7. President APFSSH (2014-17)
8. Chairman, Committee of Brachial plexus injury, International Federation for the Society of Surgery of Hand (IFSSH). (2014-17)
9. CEO, E-Da Health Care Institutes

Surgical Specialty:

(1). Orthopedic trauma, such as open fracture, mangled extremity.

(2). Microsurgery in adult & children, flaps, toe-to-hand transfer.

(3) Brachial plexus reconstruction

(4) Hand & wrist surgery

(5) Treatment for osteomyelitis

(6) Spine surgery (Cervical spine & Tetraplegia)

Academic works (Attached references)

153 scientific SCI papers in JBJS, JHS, JOR, JRM. J Trauma, Acta Orthop, CORR, Spine, Orth Clin NA, Injury, Biomaterial, Microsurgery, Bioengineering, etc.

Reviewer & Board of editor: Microsurgery, The Scientific World Journal, Journal of Hand Surgery, Clinical Biomechanics, JOS, JBMS, J Wrist surgery, Injury, Biomedical J..

12 Chapters author in orthopedic and microsurgery textbooks.

85 research projects (1991~2019) focus on biomechanics of hand, nerve, vessel, endothelial cells, stem cell, and implants (spine, fracture, hand & wrist).

** International Invited Lectures: more than 300 invited speeches in international conferences.

** **Honors & Awards:**

1. The "Whole National 10 Most Outstanding Youth Award", Taiwan, 2000.
2. The "Distinguished best 100 doctors in Taiwan" Award (2009-2010)
3. The National Outstanding and the Best Doctor in Taiwan Award, 2012
4. The Taiwan National Special Contribution & Dedication Award, 2013
5. The Distinguished Outstanding Alumni Award, Taipei Medical University, 2015
6. The Distinguished Outstanding Alumni Award, National Cheng Kung University, 2016
7. The Distinguished honorable Citizen Award, Peng-Hu City, 2017
8. The International College of Surgeon: Special Contribution & Dedication Award, 2018
9. The Distinguished Outstanding Citizen Award, Kao-Hsiung City, 2019

幹細胞醫療運用現況及將來

杜元坤
義大醫院院長

Osteoarthritis of the knee with cartilaginous defect is a common cause for knee pain and disability. Cell-based therapies for osteoarthritis have become thriving areas of research and development. Cell-sheet technology has been successfully implemented in clinical research for the regeneration of tissues such as the cornea, myocardium, esophagus, and cartilage. Here, we report the results of using layered chondrocyte sheets with or without high tibia osteotomy to treat the patients with osteoarthritis and cartilage defect. All the patients showed significant improvement of pain, functional score, and quality of life. Furthermore, complete full-thickness cartilage regeneration was confirmed by the MRI. In addition to the satisfaction of autologous layered chondrocyte sheet transplantation, heterogenic layered chondrocyte sheet transplantation provides a one-stage treatment strategy with higher quality of chondrocyte sheet.

Spinal cord injury is a devastating disease, and caused severe loss of extremities function. Patients with paraplegia require full-time assistance to perform daily activities. Nerve transfers have been widely used to treat the peripheral nerve injury, such as brachial plexus injury. Using the nerve transfers to treat the SCI also has been investigated with reasonable outcome. We further assess the feasibility and clinical outcome of nerve bypass surgery by transferring intercostal nerves (ICNs) into spinal cord, and the results showed improvement of both motor and sensory outcome.

In addition to nerve bypass surgery for SCI, cell therapy has also been an another attractive treatment strategy. Numerous studies have demonstrated that Olfactory ensheathing cells (OECs) support neural regeneration by stimulating axonal myelination, secreting important survival factors, and regulating cell debris phagocytosis and neuroinflammation. Recently, extracellular vesicles (EVs) have been considered to play a key role in the regeneration of spinal cord. We investigated the effects of OEC-derived EVs on neuronal disorder, and results showed benefit effects in neuroprogenitor cells proliferation, and oxidative stress-induced cell toxicity.

余金樹

(P5)

CURRICULUM VITAE

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慧誠智醫創辦人兼總經理

彰化基督教醫院專業顧問

香港大學 SPACE 商業學院客席講師 (HKU SPACE EXECUTIVE ACADEMY)

臺北電腦公會智慧城市智慧醫療召集人

中華民國軟體協會理事

臺灣高齡產業創新發展協會理事

學經歷：

研華智能 副總經理

逢甲大學資訊工程系

超過 20 年 ICT 科技與醫療經驗

智慧醫院醫療產業的數位轉型

余金樹
慧誠智醫創辦人兼總經理

全球吹起智慧城市發展風潮下，醫院扮演著大健康醫療照護核心，唯有一套完整的智能應用規劃，才能讓病患在醫院、機構、居家不同場域轉換時，能得到不間斷的連續性照護，並能驅動醫院智慧轉型的風潮。醫院數位轉型可由兩面向導入，分別為醫院場域的智慧化以及專科治療的智慧化。

在 AIoT 科技日新月異發展下，醫院場域的智慧化可以由 5 大環節著手，(1)智慧手術室，為手術安全建立標準化作業排程管理，(2)遠距醫療，為全球各據點建置與總院所之服務連線，並串聯多種醫療檢測裝置，提供專科醫師診斷資訊，(3)智慧病房，建置電子床頭卡、房門卡以及電子白板，整合醫療團隊與病床狀態資訊，(4)用藥安全，藉由智慧藥櫃的導入，提供高安全性的用藥管理，避免醫療糾紛，(5)病人安全，以去識別化、無接觸 ToF 技術，讓病患在隱私不被侵犯的狀態下，醫護人員也能隨時掌握病患狀態。透過醫院智慧化的導入，可以提升病患體驗，並且降低醫療人員的壓力。

另一方面，科技的進步也為病患帶來新的治療模式，智慧無創醫療逐漸成為趨勢，可以提升治療效果並且縮短疾病恢復期，減輕治療不適。目前廣泛應用治療的超音波聚焦無創治療(High-intensity focused ultrasound，簡稱為 HIFU，海芙刀)，是利用超音波聚焦產生熱能的原理，以及超音波在治療的同時兼具即時觀察的特性，完美結合成無創治療的應用。經由科技的進步，治療的能量能精準地投放在肌瘤上，使病兆發生凝固性壞死，血流也會因熱治療而被切斷營養供給路線。這個瘤體在治療後會逐漸變軟、慢慢被子宮正常組織吸收，而達到縮小並改善患者的經痛、經血過多、頻尿或便祕等等症狀。海芙治療不需要麻醉、插管，皮膚完全沒有傷口、可以保留子宮，術後能夠迅速恢復正常生活和工作，且能讓女性大眾做一個完美的女人。