Abstracts

Monday, 7 May 2018

Plenary Sessions

P1.1 Chronic Disease Management 10:45 Convention Hall & Theatre 1

Collaboration among Healthcare Workers and between Health and Social Sectors in the UK

Finlay of Llandaff I
House of Lords, UK

The UK has been rated first in the world in the Quality of Death index from the Economist's Health unit (supported by the Ling Foundation). Although the UK was the founding home of the modern hospice movement, yet there is more to be done in the UK to ensure that patients and their families have a dignified, comfortable, fulfilling time as life draws to a close.

Many major life-threatening illness follow a somewhat relapsing and remitting pathway, often leaving the patient depleted of energy after each relapse. Take the cancer patient who undergoes chemotherapy and or radiotherapy. Such treatments can feel punishing, resulting in fatigue and an inability to work. When the situation is palliative, a major challenge for families is how best to provide long term care during the weeks and months before the final phase of an illness.

For the patient, fears about their future can be magnified by the difficulties of adapting to living with uncertainty. Advance care planning rests on the legal frameworks in the Mental Capacity Act of 'Advance Statements of Wishes' and 'Advance Decisions to Refuse Treatment'. But many patients are reluctant to openly plan their final phase, changing their minds about their care preferences as unexpected events that arise.

The costs of social care can erode capital funds and continuity of care becomes increasingly important as a person becomes frailer. If support is inadequate the full burden falls on families.

Initiatives in the UK include volunteers becoming increasingly important part of an informal support networks, through schemes such as 'Compassionate Communities' and 'Help Force' in hospitals, yet the greater number of people involved, the more crucial good information transfer becomes between all collaborators.

P1.2 Chronic Disease Management 10:45 Convention Hall & Theatre 1

Healthcare System in Sweden: Integrated Care Model and Patient Centred Approach

Henriks G
Learning and Innovation, Qulturum, Sweden

Uncertainty and new demands for change characterise the agenda in Sweden within everyone in social sectors and practitioners as well as academics and it may signify that we are living. "As slowly as it goes today, it will never go ahead".

In order to manage and lead healthcare systems in this fast changing world, we need strategies for health, integrated care models and co-production models that ensure the organisation's current stability, but which simultaneously develops an adaptive ability to work on a long-term and systematic basis with different approaches and methods to use the resources best possible. The healthcare systems need an adaptive ability to quickly change and follow the development of society, technology and competence.

Success factors are the systems basic values, process re-engineering work and competence renewal but also a macro and micro system that support the same integration ideas. Person centred process engineering; connectivity and team-based clinical groups are key concepts in the Swedish systems work with the work. Three cornerstones for the management system at all levels are patient experience, clinical results and the resources used.

P2.1 Committed Staff, Quality Service 13:15 Convention Hall B

Developing First Class Civil Service

Tan R
Civil Service College, Singapore

This session shares Singapore's experience in its quest to become a First Class Public Service, one that connects with citizens, cares about them and has the intention to serve, and competent to deliver. It traces the history of various reform movements the Singapore Public Service had undergone over the decades in its quest for excellence. It identifies the current global trends and challenges that governments across the globe are grappling with and discusses how the Singapore Public Service seeks to address them. Specifically, the session focuses on three key themes: (1) retaining and sustaining public trust, (2) Going digital, leveraging technology, and (3) building new competencies, more agile organisations and a more agile and responsive public sector as a whole. The session concludes by highlighting the unifying message behind all these rounds of reform in Singapore - that of constructive discontent and an ambition to better the status quo, and building buy-in across the Service at all levels of officers of the need to change. This comes from an ethos of continually reinventing our model to do better, through a capacity for imagination, spirit of resourcefulness and the relentless pursuit for excellence so that we can serve Singapore and our citizens better.

P2.2 Committed Staff, Quality Service 13:15 Convention Hall B

Bridging the Gap between Generations

Sung J
Department of Medicine and Therapeutics, Faculty of Medicine, The Chinese University of Hong Kong, Hong Kong

We all belong to different generations: generation of endurance, generation of optimism, generation of uncertainty, and now (according to Time 2013) the me-me-me generation.

Time describes the millennials as lazy, entitled narcissists who still live with their parents. Yet, they will save us all. So, why is our youngsters being labelled as the most narcissistic generation. They are mostly children of baby boomers. They grow up with the internet. They are highly educated (at least they have a university degree). They move back in with their parents after going away for college. They refuse to grow into adulthood.

What does that translate into the medical profession? They are relatively well off and being well taken care of by their baby boom parents; so they had little chance to face adversity. They see quality of life more important than achievement; so the choice of jobs and specialty is different. They are connected to each other by whatapp and facebook, but seldom talk face-to-face; so talking to patients and their family might be difficult. They are, maybe, a bit egocentric. Well, I might be bias, but look at the selfies.

So how to connect to this generation? First, Engagement. We need to talk to them, connect with them by social media, and show them we care about them, instead of bossing them. Second, Englightenment. We need to teach them lessons in life, with our own example and experience, but not to insist that this is the only way to success. Third, Endurance. We need to allow them to make mistakes, and then take responsibility of the mistakes that they have made, and then to avoid making the same mistakes again and again. Finally Empowerment. We need to entrust them with more important jobs, such as putting in an intravenous line.

Bridging the Gap between the young medical professionals and us is crucial, because they are our future. They are the one who we shall pass our torch. They are the one in-charge of the healthcare system of our society. They are the one operating on us when we need surgery. These efforts is definitely worthwhile.

Plenary Sessions

P3.1 Teamwork 14:30 Convention Hall B

The Power of One, the Power of Many: Bring Change to Health and Healthcare

Bevan H
NHS Horizons, UK

As healthcare leaders, we are working in a world that is increasingly dynamic, fast moving and with so many complex dilemmas that there is often no "right" answer to the problems that we face. In this lively and interactive session, some of the latest ideas, tools and approaches from leading practitioners of large-scale change around the globe will be explored. We will reflect on the practical implications and opportunities for our work in a world where the balance between "old power" (positional power and authority) and "new power" (networks and social movements) is shifting. We will consider how to build our individual and collective capability for leading change and delivering results in this new world.

Objectives

Participants will (1) appreciate trends and approaches that can help us to deliver change in the coming era; (2)examine the difference between "old power" and "new power" and how to work with both in leading change in healthcare; (3) understand the skills needed by leaders of change in the future and prepare to seize the opportunities that the environment for change offers; and (4) take home approaches and frameworks that can help us to deliver change in our own context.

P3.2 Teamwork 14:30 Convention Hall B

Making Quality Improvement Initiatives Sustainable

Dennis C
Australian Council on Healthcare Standards, Australia

Sustainability is "when new ways of working and improved outcomes become the norm" (NHSScotland)

Health services invest significant resources into quality improvement and clearly, are keen to see this investment deliver improved outcomes of care and be sustainable into the future. Sustainability however requires thinking beyond the life of a project. Far too often we have seen great initiatives/projects commence with excitement and enthusiasm only to wane over time. Alternatively, there is always the risk of a "thousand flowers blooming"; too many projects occurring at once and often competing for both resources and for relevance.

Sustainable improvement is also dependent on a number of other factors. These include;

- Leadership
- Quality and safety cultures
- Human factors including teamwork
- Organisational learning – how knowledge is actioned
- Approaches to change management
- Adequate resources – financial, staffing and infrastructure
- Monitoring improvements and,
- How we acknowledge achievements and celebrate wins.

Sustainability has often been considered as the final stage of a quality improvement process, however this session will explore how this should be built into all stages of a quality improvement initiative.

This presentation will also include a case study example of an improvement project. It will address the critical success factors that facilitated the achievement of the projects objectives and enabled the work to move from an "improvement project" to an ongoing "programme of continuous improvement".

P4.1 Living with the Chronic – What Could be Done at Primary Care 16:15 Convention Hall B

The Challenge of Managing Multiple Chronic Conditions

Guthrie B
Population Health Sciences Division, University of Dundee, UK

The challenges faced by health services continually evolve. In the first epidemiological transition, patterns of disease shifted from being dominated by acute conditions and trauma to non-communicable diseases or long-term conditions. Common responses by healthcare systems include the widespread dissemination of clinical guidelines and the development of structured care pathways with disease registers supporting regular recall to structured care. However, we are now in the midst of a second epidemiological transition with increasing number of people now living with multiple long-term conditions. It is important to recognise that multimorbidity is in part the price of success. Better survival from acute conditions like stroke, cancer, premature birth and trauma is a triumph, but it means that more people survive with long-term conditions. Increased life expectancy is to be celebrated, but in turn contributes to rapid population ageing. However, despite the increase in multimorbidity, healthcare systems remain built around specialist care organised by body systems most commonly located in hospitals. Virtually all clinical guidelines are for specific conditions, and are based on evidence from clinical trials that exclude the majority of people with the condition the guideline is for. Clinical professionals, patients and families often struggle with optimising the risks and benefits of treatment in complex patients, and in providing effective treatment to those that can benefit while avoiding futile or harmful treatment in those that cannot. There is no simple solution to the challenges posed by multimorbidity. This presentation will describe the epidemiology of multimorbidity, the challenges multimorbidity poses for clinicians, policymakers and guideline developers, and ways in which health services and individual clinicians can respond to optimise care.

P4.2 Living with the Chronic – What Could be Done at Primary Care 16:15 Convention Hall B

How Can We Respond to the Global Challenge of Dementia?

Wittenberg R
London School of Economics and Political Science, UK

Dementia has huge impacts on the quality of life of people living with the condition and their carers and huge impacts on society more generally. Around 50 million people worldwide are living with dementia. Rising numbers of older people mean that worldwide the number living with dementia could treble by 2050.

There are three major challenges to address in responding to this global challenge: prevention, treatment and care. One third of cases of dementia are potentially preventable. Key risks factors include: in early life, level of education; in mid-life, hearing loss, hypertension and obesity; and in later life, smoking, depression, physical inactivity, social isolation and diabetes. How can we best reduce these risks?

There is currently no cure for dementia. All trials of potential disease-modifying drugs in recent years have failed and some pharmaceutical companies have ceased research and development in this field. Others are currently conducting trials of such drugs. A new drug which delayed onset of Alzheimer's disease by three years could reduce societal costs of care by 30% (before allowing for the costs of the drug). How should healthcare systems best prepare for the potential availability of new drugs which prove effective but possibly costly?

People living with dementia require timely diagnosis, high quality long-term care and support and ultimately end-of-life care. Most of this care in high-, middle- and low-income countries is provided by unpaid carers. They too may require care and support. There are some symptomatic drugs which have been found to be cost-effective. Some non-pharmaceutical treatments, including cognitive stimulation therapy, have also proved cost-effective in improving quality of life for people with dementia and carers. How can these interventions be effectively made available to a higher proportion of people living with dementia?

Tackling these challenges needs international cooperation to promote research and development and to facilitate learning between countries. To this end, World Health Organization has recently established a Global Dementia Observatory and a global action plan on the public health response to dementia.

Symposiums

S1.1 Why Patient Blood Management is Important in Modern Healthcare System? 13:15 Convention Hall C

Patient Blood Management – Why is There an Urgent Need for Change?

Hofmann A
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Impairment that affects the greatest number of people in the world is anaemia, which was accounted for 30% of the world population in 2015. This condition is associated with weakness, fatigue, difficulty concentrating, low productivity, infection, heart failure, preterm labour, low birth weight, child and maternal mortality. 56% of the global anaemia burden is found in the Asia Pacific region. In surgical patients, anaemia is an independent risk factor for major morbidity and mortality. The adjusted odds ratio (OR) for mortality in severely anaemic compared to matched non-anemic patients is almost threefold and even with mild anaemia, it is 40% higher. The OR for infections is almost twofold and the OR for red blood cell transfusion (RBC) fivefold. Surgical blood loss and bleeding is another independent risk factor for major morbidity and mortality. Over the past seven decades, the default therapy for anaemia and blood loss was the administration of allogeneic blood transfusions. However, accumulated evidence shows that transfusion is another independent risk factor for mortality, major morbidity and hospital length of stay. Together, they constitute the detrimental triad of independent risk factors: poorly managed bleeding acutely induces or exacerbates anaemia, which at a certain threshold may require transfusion.

Enormous clinical, public health and health-economic magnitude of this problem are now increasingly recognised. Patient Blood Management (PBM), an evidence based bundle of care to optimise medical and surgical patient outcomes by clinically managing and preserving a patient's blood, is a new clinical standard to solve the pervasive problem. The concept is built on three pillars: Correcting anaemia by stimulating the erythropoiesis; minimising bleeding and blood loss through surgical, anaesthesiological and haemostaseological techniques and interventions; and finally, harnessing and optimising physiological reserve of anaemia to avoid or reduce the amount of transfused RBCs.

S1.2 Why Patient Blood Management is Important in Modern Healthcare System? 13:15 Convention Hall C

Patient Blood Management – The Future in Hong Kong

Lee CK
Hong Kong Red Cross Blood Transfusion Service, Hong Kong

As in developed countries, ageing population has cast significant pressure on the healthcare system in Hong Kong. It has been observed that an exponential growth in demand is seen in both hospital and outpatient services. Blood transfusion activities and demand are also noted to increase a disproportional magnitude. For the period between 2006 and 2016, there was a 34.1% increase in blood demand compared with a 7.6% growth in population. The tremendous blood demand growth has created significant difficulties to maintain an adequate and stable blood supply locally. While the blood transfusion service is working hard in enhancing collection capacity to cope with ever increasing clinical blood transfusion needs, the responses to donor recruitment and promotion are in general getting inferior nowadays with difficulties in reaching younger population in particular. At the same time, donor and blood safety, and low pre-donation haemoglobin are the other key limitations for blood donation.

On the other hand, strategies in minimising blood utilisation or slowing down the blood demand growth should be a reasonable approach to develop and implement as soon as possible. Over the last decade, patient blood management (PBM) has received much attention in many developed countries which has been shown to effectively improve patients' outcome and quality of care. At the same time, those countries who have implemented PBM saw a remarkable decrease in blood demand of up to 20% over the same period of time.

In Hong Kong, public health service utilises about 90% of the blood supply with majority being transfused to medical and geriatric patients. However, blood utilisation in private setting should not be overlooked. With an expected growth in blood demand in ageing population, a concerted effort is therefore, necessary to bring in the successful models of PBM into the territory. It is hoped that every medical and healthcare profession should make him- or her-self well aware of patient blood management and its associated recent developments in medical and surgical therapies. With these, the professions could identify their area of issues or concerns where targeted PBM initiatives could then be designed and applied based on their need and patients' characteristics.

It is concluded that patient blood management should be well publicised and properly introduced into the local healthcare system at a reasonably faster pace. With an aim for better patient management, support and active participation from the health authority and professions are of paramount importance. The end results could also relieve some of the difficulties in the current blood supply.

S2.1 Acute Care for Frail Older People 14:30 Convention Hall A

International Experience in Managing the Fastest Growing Population in Acute Care: Complex, Frail Older Patients

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Population ageing poses an existential threat to many healthcare systems, especially to hospital care. Most such systems are organized and funded on a model of otherwise well patients, who present with a chief complaint that represents a single organ/single issue problem. Typically, the systems assume that these uncomplicated patients can easily be discharged once treated. “Exceptions” are understood to exist, but are felt not to properly be the hospital’s responsibility.

The goals of this session are:

(1) to illustrate why population ageing and illness complexity are linked, and to demonstrate the intrinsic relation between frailty and ageing. We will review how health deficits accumulate across the life course, reflecting a typically decades-long, subclinical period of slow decline in repair capacity;

(2) to review how frailty impacts on disease presentation. Here we consider how the “geriatric giants” (e.g. delirium, functional decline, immobility, social abandonment) relate to illness acuity and to how complex systems fail;

(3) to outline how to screen and assess for frailty in prehospital care and in the Emergency Department. The focus is on usable tools and on obtaining collateral information rapidly and with empathy;

(4) to illustrate how frailty assessment links prognosis and care planning. We will discuss the interplay between illness acuity and the degree of underling frailty. This is recognised as a challenging area, and ripe for additional research to provide insights that can help on an individual basis.

This presentation will also make the point that the challenges for better care of older adults consist in not just in a better understanding of the facts surrounding ageing, but in the willingness to engage with the complexity of illness – especially acute illness – in people with complex medical and social needs.

S2.2 Acute Care for Frail Older People 14:30 Convention Hall A

Interdisciplinary Care for Frail Older People in Acute Setting in the UK

Banerjee J
University Hospitals of Leicester NHS Trust, UK

Older people are increasingly the most important and impactful users of acute care services in the UK. Over the last few years there have been many community initiatives to reduce hospital usage in this group with variable results. Over the same time there have been initiatives in the acute setting to better respond to this increasing challenge. These have had variable clinical and cost effectiveness. Despite all these, recent data from the UK suggests that frailty in older people is having a multiplicative effect on care home admission, hospitalisation and mortality with the highest impact in one year but continuing into years three and five. There is a paucity of evidence for any local or regional initiative having had any meaningful impact on reducing acute activity in frail older people. Frailty affects all aspects of care including prescribing, and successful interventions had affected specific frailty syndromes affecting people in care homes and at end of life. Comprehensive geriatric assessment delivered by interdisplinary teams is an evidence based intervention that can improve outcomes in older people. However this needs to be systematised across a whole system and implementation at local, regional and national levels are being targeted through integrated systems and quality collaboratives. Their impact remains to be evaluated.

Symposiums

S3.1 Staff Engagement and Leadership 14:30 Theatre 1

Committed Staff, Professional Service

Chiu WWY
Hong Kong Police Force, The Government of the Hong Kong Special Administrative Region

As reflected by the good law and order situation in 2017 and the lowest crime rate since 1971, Hong Kong is no doubt one of the safest and most stable societies in the world. Such an accomplishment could not possibly be achieved without the support of the community and the professional and dedicated service provided by the Hong Kong Police Force (HKPF). Since 1995, the HKPF has been pursuing a service-oriented and community-based approach in policing. This commitment is enshrined in the Vision, Statement of Common Purpose and Values of the HKPF. The quest for quality management is underpinned by the Force Quality Management Framework which includes five service excellence drivers, namely Leadership, People, Culture, Resources and Partnership. Undoubtedly, People are the greatest asset of the HKPF. The professionalism and commitment of all staff are critical to the success of the organisation in meeting the dynamic policing challenges and rising public expectations. In the presentation titled “Committed Staff, Professional Service”, two of the service excellence drivers, namely People and Culture, will be highlighted to showcase the people-based human resource management Strategy of HKPF in developing professional staff and instilling commitment to serve the community with pride and care.

S3.2 Staff Engagement and Leadership 14:30 Theatre 1

Staff Engagement in Healthcare: A Reflection

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Centre for Bioethics, The Chinese University of Hong Kong, Hong Kong

This presentation considers the challenges of staff engagement in the context of public healthcare and reflects on what seemed to work and what did not, based on the speaker’s experiences in leading hospital services in three different positions: Chief of Service, Hospital Chief Executive, and Senior Executive at the Head Office of Hospital Authority. The particular nature of engaging supporting staff and professional staff are considered. The presentation also provides a reflection on how staff engagement in public healthcare context may be different from private services.

S3.3 Staff Engagement and Leadership 14:30 Theatre 1

Leadership: How to Build Trust and Commitment

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Department of Management, Hong Kong University of Science and Technology, Hong Kong

"The price of greatness is responsibility" – Winston Churchill

"Being powerful is like being a lady. If you have to tell people you are, you aren't." – Margaret Thatcher

Real leaders have followers who choose to follow, not they have to follow. Position power gives leaders the benefits of doubts until leadership behaviours are demonstrated and proven.

Leadership does matter, it is a soft skill with hard consequences. Leadership matters tremendously.

Leadership is a responsibility. It determines the quality of life for all followers which directly impacts the productivity and outcome of the team.

Leadership does not depend on one's natural personality or charisma. It depends on a set of behaviours demonstrated by the leaders which made others want to follow. This set of behaviours can be learned and practised by anyone who is willing. When these behaviours are learned and practised repeatedly, they become habits, the sum of one's habits become one's character. The world is in need of more leaders who are humble enough to learn, and disciplined enough to practice these leadership behaviours.

People who were given the responsibilities to lead must learn and practice the essentials of leadership behaviours in order to be effective, and have voluntary followers who are committed.

Leaders create shared vision and model the way to pursue it with passion and perseverance
Leaders are mission-centred, not self-centred
Leaders earn the respect through competence and taking ownership
Leaders earn the trust through integrity and fairness
Leaders earn team commitment through enabling others to succeed and share recognitions

Special Sessions

SS1.1 Healthcare in Mainland China 10:45 Theatre 2

Beijing 2035 – towards a New Healthcare System
面向 2035 的北京醫療衛生服務新體系

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Beijing Municipal Commission of Health and Family Planning, The People's Republic of China
中華人民共和國北京市衛生和計劃生育委員會

首都醫療衛生事業經過長期建設和改革發展，已經形成了體系較為健全、功能較為完備、層次較為清晰、可及性比較良好、水準與國際接軌的服務體系。新時代我國社會主要矛盾已經轉化，居民對衛生服務品質、效率、環境等方面的需要不斷提高。

面向 2035 年，建設與國際一流的和諧宜居之都相適應的現代化、高品質的醫療衛生服務體系，對於優化醫療衛生資源配置，創新醫療衛生服務供給方式，提升醫療服務水準和品質，高標準建設北京城市副中心醫療衛生服務體系能力意義重大。面向未來 20 年發展，北京制訂了衛生發展的目標與戰略規劃，將在服務體系。機構佈局、人力資源、科技與資訊化發展等方面全力加強建設，更好地促進公平高效服務和公眾健康。

SS1.2 Healthcare in Mainland China 10:45 Theatre 2

Health Informatisation in Guangdong Province
廣東省醫療衛生信息化建設情況

Duan YF 段宇飛
Health and Family Planning Commission of Guangdong Province, The People's Republic of China
中華人民共和國廣東省衛生和計劃生育委員會

一、廣東省醫療衛生信息化建設概況

(一) 廣東省醫療衛生信息化建設基本情況、以電子病歷系統為核心的醫院信息化建設情況、區域信息平臺建設情況、業務監管系統建設情況。全省建有聯通省市縣區村各級的衛生機構的垂直業務信息系統 26 個，覆蓋了衛生管理。疫情疾病監測、食品安全、應急醫學救援和醫學科研等業務工作，各級、各類醫療衛生機構主要業務均實現了信息化管理。(二) 廣東省醫療衛生信息化建設的特色和亮點、基層醫療衛生機構管理信息系統建設成果、健康醫療信息互聯互通、遠端醫療平臺建設、互聯網 + 醫療創新平臺建設、智慧醫院建設。(三) 大灣區 9 市醫療衛生信息化基本情況。簡要介紹大灣區 9 市在醫療衛生信息化建設現狀和突出特點。

二、未來幾年廣東省醫療衛生信息化建設的重點工作

(一) 加快區域醫療衛生信息化建設。建成省市兩級全民健康信息綜合管理平臺，建成區的遠端醫療體系，實現全省健康信息互聯互通，提升公共醫療健康信息服務水準，推進醫療服務均等化，提升人民群眾獲得感。(二) 促進新興信息技術與健康醫療的融合發展。促進大資料、互聯網、人工智慧等新興信息技術與健康醫療服務深度融合，提高診療服務效率和品質。(三) 推動醫療健康大資料轉化應用。建立省級醫療健康大資料中心，運用大資料技術研究廣東地區重大疾病、多發病發病規律、明確治療措施、控制治療費用、提高治療品質，降低患者醫療負擔。深化健康醫療大資料在行業治理、臨床科研、公共衛生、中醫藥等領域的應用。(四) 深化粵港澳大灣區醫療衛生信息化合作。探討粵港澳大灣區在衛生信息基礎設施建設、業務協同資源分享和健康大資料科研等方面合作願景。

SS2.1 Precision Cancer Management 13:15 Theatre 2

Precision Medicine and an *In Vitro* Drug Screening – Platform for Treatment of Leukaemia

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Acute myeloid leukaemia (AML) is one of the most lethal cancers in Hong Kong, occurring in about 300 patients each year. It is a group of diseases with distinct clinicopathologic, cytogenetic and genetics features, sharing in common an abnormal increase in blasts in blood and bone marrow. Conventional chemotherapy and allogeneic haematopoietic stem cell transplantation (HSCT) are the mainstays of treatment. This "one-size fits all" approach for such a heterogeneous disease has resulted in unsatisfactory treatment outcome and only 30-40% patients can achieve long-term remission. Prognosis of elderly patients is dismal. There is an unmet clinical need to develop a personalised treatment for AML as guided by biomarkers. Recent advances in next generation sequencing of leukaemia genome have shed important light on the heterogeneous and combinatorial driver events and the intricate signaling pathways in this disease. Emerging evidence from in vitro drug screening has demonstrated its potential value in predicting clinical drug responses in specific AML subtypes. However, the best culture conditions and readouts have yet to be standardised and the drugs included in these screening exercises have to be frequently revised in view of the rapid emergence of new therapeutic agents in the oncology field. Recent developments in microfluidics and single-cell sequencing have further empowered these platforms the ability to examine the intrinsic heterogeneity in each AML and may be integrated into future clinical trials to develop personalised treatment of AML.

SS2.2 Precision Cancer Management 13:15 Theatre 2

Genomic Study on Molecular Pathways of Cancer Development and Its Relevance to Cancer Precision Medicine

Leung SY
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Colorectal cancers (CRC) develop through two major molecular pathways. The majority goes through the adenoma-carcinoma sequence, with stepwise mutation of APC, KRAS and TP53 genes. A smaller proportion (around 15%) develops through inactivation of the DNA mismatch repair (MMR) system leading to an accelerated mutation rate and microsatellite instability (MSI). Some of these molecular alterations are emerging as biomarkers for prognostication, guiding patient treatment as well as prediction of genetic predisposition for focused preventive screening. CRC with MSI are sensitive to immune checkpoint inhibition. Furthermore, MSI CRC are more likely to progress through the serrated pathway with RNF43 mutation or R-spondin fusions, thus these patients may be candidate for clinical trials involving WNT upstream inhibitor treatment. Whilst most late onset CRC with MSI are sporadic due to biallelic inactivation of MLH1 by promoter methylation in somatic cells, majority of early-onset MSI CRCs are due to hereditary predisposition by way of germline MMR gene mutation (Lynch Syndrome). Genetic diagnosis to distinguish between germline versus somatic alterations can identify high risk group for prophylactic screening, and has proven highly effective in cancer prevention. Emerging technologies including next generation sequencing can facilitate the discovery of novel genes or pathways that contribute to development of inherited or sporadic gastrointestinal cancers. Finally, emerging organoid culture technology enables direct culture of patients' cancer cells for drug sensitivity testing, which coupled with genomic analysis, holds great potential for advancement of cancer precision medicine through tailored targeted therapy to specific subgroup of patients.

Special Sessions

SS3.1 Antimicrobial Resistance 14:30 Theatre 2

Innovations in Diagnostics for the Control of Antimicrobial Resistance

Peeling R
Clinical Research, London School of Hygiene and Tropical Medicine, UK

Diagnostics play a critical role in the global antimicrobial resistance (AMR) response. For many clinical syndromes, a simple rapid test that can be used at the point-of-care (POC) to distinguish between bacterial and viral infections will reduce inappropriate use of antibiotics. Research on syndrome-based host biomarkers is ongoing with some promising results. A more critical innovation is to develop a test that would allow providers to discriminate between sensitive and resistant pathogens at POC as this may facilitate the re-introduction of abandoned first-line therapies and is of considerable economic benefit. Reducing the use of antibiotics, especially preserving last-line therapies for future generations, should be the key aim of national AMR strategies. World Health Organization has published a list of priority pathogens for which new antibiotics are needed and the US Centers for Disease Control and Prevention has published a list of resistant pathogens which pose a serious threat to public health. Affordable and accessible diagnostics are urgently needed for the surveillance of pathogens on these lists so that countries can determine the extent of resistance for each priority pathogen, develop antibiotic stewardship strategies and monitor the impact of their interventions. While technological innovations are being stimulated by challenge prizes, such as the UK Longitude Prize, global efforts to set international standards for diagnostic evaluations and develop innovative mechanisms to accelerate regulatory approval are urgently needed to reduce delay in adoption of diagnostics to combat AMR and lower costs of market entry, making the final products more affordable.

SS3.2 Antimicrobial Resistance 14:30 Theatre 2

One Health Approach to the Control of Antimicrobial Resistance in Hong Kong

Ng KHL
Infection Control Branch, Centre for Health Protection, Department of Health, The Government of the Hong Kong Special Administrative Region

Antimicrobial resistance (AMR) brings significant impact to healthcare settings, and is regarded as one of the most serious public health threat. It limits clinicians' choice of antibiotics for treating infections, renders conventional treatment for common infections ineffective, and increases healthcare burden for treating them. Novel resistance mechanisms continue to emerge and spread among microorganisms globally and we are on the edge of a post-antibiotic era. The Government of the Hong Kong Special Administrative Region has launched the Hong Kong Strategy and Action Plan on Antimicrobial Resistance in July 2017 to tackle the threat of AMR. The action plan includes six key areas under the One Health framework with considerations from human, animal and environment health aspects.

In this session, the One Health Approach, suggested by the World Health Organization as the preferred approach in controlling AMR, will be discussed, illustrating the complex interactions between human health, animal health, and the environment; its relationship with AMR; and the importance of multi-sectoral collaboration for effective AMR control. Examples of AMR control initiatives will be shared, with the latest results of General Public's Knowledge, Attitude and Practice Survey, which shows the view and practice of local general public concerning AMR, and its implication to daily practices of health professionals will be discussed.

SS3.3 Antimicrobial Resistance 14:30 Theatre 2

Antimicrobial Resistance Control in Long-term Care Facilities

Chen H

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In Hong Kong, Residential Care Homes for the Elderly (RCHEs) are a heterogeneous group of institutions providing different levels of care for aged people, who, for personal, social, health or other reasons, can no longer live alone or with their families. Around 9% of the elderly population in Hong Kong requires residential care. There are about 750 RCHEs providing over 79,000 residential places for elderly. With the ageing population, more and more people need to stay in old age homes. With the crowded environment and the frailty of elders, infection control plays a very important role to prevent the spread of infections among residents.

Multidrug-resistant organisms (MDROs) are microorganisms that are resistant to one or more classes of antimicrobial agents. Infections caused by MDROs often fail to respond to standard therapy and require treatment with big gun antibiotics, which may be associated with higher toxicity and costs. Infection with MDROs leads to prolonged illness and higher mortality. Discharging asymptomatic colonizers from hospital to community especially to RCHEs may increase the risk of transmission among residents within these facilities.

Transmission of multidrug resistant organisms (MDROs) in RCHEs is an emerging challenge for infection control professionals, made complex by the significant amount of residents' movements between acute care hospitals and the long-term setting, where transmission and acquisition of hospital-acquired infections occur not infrequently, including MDROs. Programmes to promote different Infection control measures in RCHEs to contain the spread of MDROs would be elaborated and discussed in the presentation.

Masterclasses

M1.1 Multidisciplinary Management of Aortic Nodal Metastasis in Endometrial Cancer — 10:45 Room 221

Significance of Nodal Status and Dilemma in Aortic Node Dissection

Cheung TH
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Endometrial carcinoma is the commonest gynaecological malignancy in Hong Kong. The annual incidence in Hong Kong has been increasing in the last decade and reached 978 cases in 2015. Although most patients presented early with good prognosis, 10% patients with apparently localised disease to the uterus have nodal metastasis. Patients with occult nodal metastasis may remain undetected without thorough pelvic and para-aortic lymphadenectomy. However, indiscriminate application of radical surgical procedure to all endometrial cancer patients may do more harm than good because many patients would be subject to longer operation time and higher surgical complications with no real benefit. This is a major concern because many endometrial cancer patients have high surgical risks due to advanced age, obesity and co-morbid conditions such as diabetes mellitus and hypertension. It has been shown that the chance of finding metastatic nodes increases with the number of lymph node removed. The mean number of nodes removed is less than 10 in many surgical reports signifying the inherent surgical difficulties.

To reduce surgical morbidity, we should limit radical nodal dissection to patients with significant risk of nodal metastasis and spare patients with well differentiated carcinoma and superficial myoinvasion of the procedure. One key issue remains how to accurately assess the tumour grade and depth of myoinvasion preoperatively. Furthermore, we could apply minimally invasive surgery (MIS) to reduce surgical morbidity. However, thorough pelvic and aortic nodal dissection via MIS is technically difficult that not many can master. The use of surgical robot has made the MIS easier, but it comes with a price and is not generally available. Finding sentinel nodes has been shown to be highly sensitive in detecting nodal metastasis in cervical and vulva carcinoma, its role in endometrial cancer remains to be defined.

M1.2 Multidisciplinary Management of Aortic Nodal Metastasis in Endometrial Cancer — 10:45 Room 221

MR and PET/MR Imaging of Endometrial Carcinoma

Lo G
Department of Diagnostic and Interventional Radiology, Hong Kong Sanatorium & Hospital, Hong Kong

Magnetic resonance (MR) provides exquisite soft tissue contrast and is especially appropriate for imaging the pelvis. MR can separate out fibroids, adenomyosis, cervical carcinoma and endometrial lesions. The junctional zone between endometrium and myometrium is well seen and tumour extension into myometrium can be identified. Multiparametric MR imaging provides anatomic images as well as functional images. Functional data such as Diffusion Imaging and Dynamic Contrast Enhancement increases diagnostic accuracy. In a cellular environment such as carcinoma, the diffusion of water molecules is restricted and this can be seen as a very dark area on the Apparent Diffusion Coefficient (ADC) map.

The PET-MRI scanner at Hong Kong Sanatorium & Hospital was installed in March 2015. To date, we have scanned 1,521 patients by 2,236 scans in total. Multiparametric MR imaging with PET functional imaging combines the best morphologic scan with the best functional scan. It is a one-stop-shop for patients and greatly increases diagnostic confidence and accuracy. MR provides unmatched locoregional staging and PET-MR is well suited for detecting nodal and distant metastases. PET-MR can also be done in a timely manner and can also reduce radiation dose by 50% to 70% compared to PET-CT.

Since MR has a limitation of not detecting pulmonary nodules less than 5mm, an ultra-low dose CT thorax is performed on our patients to ensure that all pulmonary metastases are detected.

Multiple examples of multiparametric MR and PET-MR examinations will be given.

M1.3 Multidisciplinary Management of Aortic Nodal Metastasis in Endometrial Cancer 10:45 Room 221

Role of Pathologist in Lymph Node Assessment for Patients with Endometrial Cancer

Cheung ANY
Department of Pathology, The University of Hong Kong, Hong Kong

In Hong Kong, endometrial cancer is currently the most commonly diagnosed gynaecological cancer and its incidence is rising. Presence or absence of lymph node metastasis is one of the most important prognostic factors in endometrial cancer. Surgical staging with lymphadenectomy facilitates the decision on adjuvant therapy but morbidity exists. Sentinel lymph node (SLN) biopsy refers to the selective removal of the first lymph node or group of nodes draining a cancer. SLN can be identified by injection of tracer dye into or close to the primary tumour. Intraoperative evaluation (frozen section) of SLN or non-SLN is practised although limitation exists. Identification of the metastasis at SLN indicates the need for full lymphadenectomy. This targeted sampling approach allows more thorough pathologic examination (ultrastaging) that can reduce the morbidity due to complete lymphadenectomy. SLN biopsy is widely applied in patients with breast cancer and melanoma, and SLN mapping has been proposed to be applied for staging patients with endometrial cancer particularly the low risk group with minimal myometrial invasion or low-grade histotype. There is a variation in the methodology of how SLN or non-SLN should be examined by pathologists, i.e. the number and intervals of haematoxylin and eosin stained deeper sections and the use of cytokeratin immunohistochemistry to detect low volume metastasis. An optimal approach should be established to provide efficient utilisation of resources in pathology service while ensuring a high standard of sensitivity and specificity for patient management. The significance of low volume metastases (micrometastasis, and isolated tumour cells) versus macrometastases in SLN and non-SLN is also an area of attention.

M1.4 Multidisciplinary Management of Aortic Nodal Metastasis in Endometrial Cancer 10:45 Room 221

The Influence of Para-aortic Nodal Status on Adjuvant Therapy for Endometrial Carcinoma

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Department of Clinical Oncology, Queen Mary Hospital, Hong Kong

The para-aortic lymph node status of endometrial carcinoma affects the choice of adjuvant therapy after operation. Patients with documented para-aortic lymph node involvement are at increased risk of recurrence and would benefit from some forms of adjuvant therapy.

Chemotherapy plays an important role as adjuvant therapy for those with para-aortic lymph node involvement, and paclitaxel-carboplatin is likely the most widely used regimen. Radiotherapy covering pelvic and/or para-aortic lymph nodes may also help reduce the risk of local recurrence.

It is quite well accepted that patients with documented para-aortic lymph node involvement should be offered adjuvant chemotherapy if not contraindicated, and adjuvant radiotherapy should also be considered. However, treating patients with two modalities of adjuvant therapy will result in patients suffering from side effects from both treatments. There are also variations in practices concerning the sequence of chemotherapy and radiotherapy, and the optimal sequence is yet to be determined.

Giving extended field radiotherapy covering both pelvic and para-aortic lymph nodes would be challenging given the large treatment volume and the amount of normal tissue involved in the radiotherapy treatment field, it may result in significant acute and long-term treatment toxicities, limited dose of radiation that can be given especially to the para-aortic region.

Patients should be assessed concerning the optimal adjuvant therapy regimen balancing potential benefits and tolerance to treatment. Multidisciplinary approach involving different specialties and multimodality treatment including optimally performed surgery, adjuvant chemotherapy with or without adjuvant radiotherapy targeting at sites with high risk of recurrence likely offers the best chance of survival for these patients.

Masterclasses

M2.1 Advances in Vascular Intervention 13:15 Convention Hall A

Endovenous Therapy for Varicose Vein

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Varicose vein is a common problem which may lead to distending calf discomfort or even complications such as skin changes, bleeding or ulceration. Sapheno-femoral incompetence with Great Saphenous Vein (GSV) reflux is the commonest pathology. Traditional open sapheno-femoral flush ligation and stripping of the GSV has been the standard treatment for decades. Less invasive therapy with endovenous ablative techniques have been introduced as an alternative treatment for abolishing GSV reflux. This obviates the need for general or regional anaesthesia. Studies have shown comparable efficacy with open surgery, while associated with less perioperative pain and earlier return to work. Thermal ablation with radiofrequency (RFA) or laser (EVLA) are the most popular approaches. Some studies suggest that EVLA is associated with greater perioperative pain and bruises when compared to RFA. With the introduction of 1470nm 2ring radial laser fibre, there is decreased pain and quicker return to normal activities when compared to 940nm laser fibre. More recently, non-thermal ablative methods including mechanochemical ablation and cyanoacrylate glue are also introduced. They show similar efficacy in ablating GSV reflux with comparable outcomes to thermal approaches. These techniques further eliminate the need for tumescent anaesthesia that is required for thermal ablation.

In summary, endovenous therapy with thermal ablation (RFA or EVLA) is the current first-line treatment for GSV reflux. Non-thermal ablative methods including mechanochemical ablation and cyanoacrylate glue also show promising early results although more long-term studies would be helpful.

M2.2 Advances in Vascular Intervention 13:15 Convention Hall A

Advances in Multidisciplinary Management of Vascular Anomalies: Surgeon's Perspective

Lai E
Department of Surgery, Queen Elizabeth Hospital, Hong Kong

Vascular anomalies include various high flow and low flow vascular tumours and vascular malformations. Surgical excision is the treatment choice for well-localised and functionally impaired lesions, while laser could be used to treat capillary malformations for better quality of life. Many advances in microvascular surgery offer hope for those patients with large lesion that require extensive resection resulting in complicated reconstructive procedure.

However surgical excision alone, especially in extensive disease, carries risk of massive haemorrhage which can be life-threatening. In Queen Elizabeth Hospital, we have been using hybrid approach, combining embolization and immediate surgical excision, to treat various high flow and low flow vascular malformations since 2011. The hybrid operation is carried out in Endovascular Operating Room under general anaesthesia. Embolization and excision are performed in the same session. It is an interactive procedure between surgeons and radiologists, which could minimise blood loss while increasing the rate of complete resection.

M2.3 Advances in Vascular Intervention 13:15 Convention Hall A

Advances in Multidisciplinary Management of Vascular Anomalies: Radiologist's Perspective

Fung DHS
Department of Radiology and Imaging, Queen Elizabeth Hospital, Hong Kong

Vascular anomalies are congenital diseases of blood and lymphatic vessels and are classified into vascular tumours and vascular malformations by the ISSVA classification. Vascular anomalies affect patients of all ages. Patients are stigmatised socially due to their disfiguring appearances, and suffer from pain and functional loss. In severe cases, detrimental symptoms and morbidity can occur, and profuse bleeding can sometimes be life-threatening.

Advances in diagnostic radiological technology improve the accuracy of diagnosis and facilitate decision making in treatment. The use of portable ultrasound machine at the Joint Vascular Anomalies Clinic allows instant diagnosis at one-stop consultation with various specialties. Magnetic resonance imaging and angiography, which are non-invasive and radiation-free, allow better lesion characterisation and accurate blood flow assessment.

Advances in interventional radiology by image-guided sclerotherapy and embolisation result in optimal symptom control and size reduction in the treatment of low-flow and high-flow vascular malformations. State-of-the-art imaging guidance by ultrasound and digital subtraction angiography allows radiologists to accurately access the culprit vessel, where we can inject sclerosant to shrink and occlude the diseased blood vessels without damaging adjacent normal structures. Various sclerosants are now available, including dehydrated alcohol, sodium tetradecyl sulphate, doxycycline, and bleomycin. Detachable metallic coils and permanent liquid embolic agents such as NBCA glue are adjuncts for safe and effective embolisation, particularly in the treatment of huge arterio-venous fistula. For difficult cases with tortuous diseased vessels, they can be accessed by micro-catheters and micro-guidewires for interventional procedures.

Endo-Vascular Operating Room (EVOR) refers to the setting of biplane digital subtraction angiography machine in the operation theatre. This is a breakthrough in engineering and technology which provides a unique platform to combined surgical and interventional radiological operations.

M2.4 Advances in Vascular Intervention 13:15 Convention Hall A

Beyond Ascending Aorta, What are We Doing Now? Total Arch Replacement and Frozen Elephant Trunk

Wong R
Division of Cardiothoracic Surgery, Department of Surgery, Prince of Wales Hospital, Hong Kong

Aortic surgery involving aortic arch has long been one of the most challenging areas of cardiac surgery. With the modern hybrid operating theatre, it is possible to combine multimodalities evaluation and treatment including intra-operative 3D trans-esophageal echocardiogram evaluation of true and false lumen flow, combining conventional open surgery with imaging guided endovascular treatment as well as endoscopic visualisation of stent deployment and 3D printing application in pre-operation planning. These multi-modalities approaches together with a multi-disciplinary team including cardiac surgeons, vascular surgeons, interventional radiologists, cardiologists, anaesthetists and perfusionists greatly enhance the outcome of our current aortic practice. In this presentation, the total aortic arch replacement with frozen elephant trunk series at Prince of Wales Hospital Hong Kong will be shared.

Masterclasses

M2.5 Advances in Vascular Intervention 13:15 Convention Hall A

Beyond the Ascending Aorta, What are We Doing Now? Traditional or Hybrid?

Ng WS
Department of Cardiothoracic Surgery, Queen Elizabeth Hospital, Hong Kong

In the olden days, ascending aorta replacement had been the most common aortic operation performed. As time and investigation modalities evolve, we are facing more and more aortic arch and descending aorta pathologies. Traditional open aortic operations and replacements do have its role, but definitely with significantly higher risks and potential complications.

Thoracic Endovascular Aortic Repair (TEVAR) has revolutionised the treatment of thoracic aortic disease. With advances in TEVAR, coverage of thoracic aortic intervention is much enhanced.

Nowadays, TEVAR is also paired-up with different arch-debranching operations to formulate the strategy of “Hybrid” aortic intervention. Furthermore, we plan and implement these Hybrid aortic interventions in multidisciplinary team (MDT) manner with vascular surgeons, radiologists and anaesthetists. This poses a great benefit to selected elderly and high-risk patient group.

M3.1 Contemporary Nursing 13:15 Room 221

Advanced Nursing Practice and the Journey to Advanced Practice Nursing

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Advanced Nursing Practice and Advanced Practice Nursing (APN) are equally important in today's healthcare marketplace. In the United States (US), Advanced Practice Nursing is a role, for the Nurse Practitioner, the Clinical Nurse Specialist, the Nurse Midwife, and the Nurse Anesthetist. These 4 roles for Advanced Practice Nurses, are unified under this umbrella, which has helped to provide consistency in their educational requirements, licensure, and credentialing. This LACE model of integration has helped shape the practice both in primary, acute and specialty care. This presentation will describe the highlights of both Advanced Nursing Practice and the APN roles in the US and will include one person's journey into the role of the Nurse Practitioner and subsequent specialty practice.

M3.2 Contemporary Nursing 13:15 Room 221

Skin-to-skin Contact for All Newborns: More than for Breastfeeding Initiation

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The initiation of breastfeeding starts from giving the baby to mother with skin-to-skin contact (SSC) immediate after birth. Current evidence indicates that this SSC between mother and infant increases the likelihood of exclusive breastfeeding for one to four months of life as well as the overall duration of breastfeeding. Besides successful breastfeeding, studies show that SSC also brings lots of benefits both in short term and later life health outcomes: calms and relaxes both mother and baby; regulates the baby's heart rate, breathing and temperature; helps babies to better adapt to life outside the womb; stimulates digestion and an interest in feeding; enables colonisation of baby with mother's friendly bacteria, for protection against infection and develop healthy gut microbiota. The release of oxytocin during the contact support motherhood and newborns behaviour. This soothing and comforting physical human contact also improves neuro-developmental outcomes. For preterm babies, the extended SSC (also known as Kangaroo Mother Care) brings many benefits to the preterm and sick babies that reduce hospital stay and improve their cognitive development. SSC is not just for breastfed babies, it should be for all babies both healthy and sick.

Masterclasses

M3.3 Contemporary Nursing 13:15 Room 221

The Role of School Nursing to Foster Adolescent Health

Saewyc EM
School of Nursing, University of British Columbia, Canada

The World Health Organization (WHO) has identified the importance of adolescent health for fostering health lifelong, and into the next generation. As most adolescents spend the majority of their day in school settings, the Health Promoting Schools programme has been promoted as an approach that includes environmental and policy supports, health education, and healthcare partnerships to engage young people where they live and learn. School nurses are one of the key healthcare roles, but what could their nursing practice actually look like? Drawing on policy documents from countries around the world that were evaluated as part of a WHO project, this presentation will describe some of the key roles for school nurses in different settings, examples of practices that are part of their scope, and the global evidence to support their effectiveness.

M4.1 Advances in Trauma Management 14:30 Room 221

Joy and Sorrow in Traumatology Training

Kam CW
Department of Accident and Emergency, Tuen Mun Hospital, Hong Kong

"Training Staff, Helping Patients and Saving Lives" is the prime theme in traumatology education to maximise the outcomes of the casualties and to eliminate preventable mortality.

In an advanced ageing city with predominant healthcare focus on cancer, degenerative diseases and airway infective diseases, traumatology would be a neglected "No Man's Land of Non-specialty".

On one hand, the volume burden is not high enough to justify full-scale teams. On the other hand, the presentation time is too irregular to attract clinicians to dedicate their whole career life, not to mention the lack of private practice option. Most manpower is dedicated to services with very scarce resources ear-marked for training.

The three conventional learning domains comprise of cognitive, pyschomotor and affective. It has to be extended to knowledge, skills, attitude and action to translate to bedside clinical assessment and intervention to identify injuries to treat obstructed airway, hypoventilation, and to stop bleeding and rescue the brain and limb functions according to a life-saving priority sequence.

The traditional textbook reading, systemic lectures and tutorial provide the knowledge foundation. The hands-on animal tissues practice helps build up the procedural skills. The simulation workshop is an important (but expensive) learning tool for the teamwork including, but not limited to, organization, communication, problem recognition/solving, briefing and debriefing with built-in continuous quality improvement.

The more recent web-based computer-assisted goal-directed learning modules would be better tailored to individual learning/training preference, ability, revision and retention.
Besides traumatology training, sustainability element must be constructed to maintain the expertise and interest of clinicians to avoid premature burn-out as well as to set up Succession Training Plan for each rotation of three to five years at the Post-specialist Level to help ensure the international standards can be maintained.

Traumatology training is filled with frequent challenges with occasional joy.

M4.2 Advances in Trauma Management 14:30 Room 221

Updates on Definitive Management of Pelvic Fractures

Chui KH
Department of Orthopaedics and Traumatology, Queen Elizabeth Hospital, Hong Kong

Open reduction and internal fixation (ORIF) is the gold standard surgical treatment for pelvi-acetabular fracture. It usually requires extensive surgical dissection and long operating time, and is commonly associated with considerable amount of blood loss. Navigation-assisted minimally invasive percutaneous screw fixation (MIS) for pelvi-acetabular fractures was recently advocated. Since 2015, we have developed 3D-navigation MIS for pelvi-acetabular fractures. It requires a radiolucent table, an intra-operative 3D-machine and a navigation system. It allows accurate screws insertion to pelvises with complex anatomy, resulting in much less intra-operative blood loss, shorter operative time and lower radiation exposure to the operating staff. Following implementation of this fixation technique, the management logistic of pelvi-acetabular fractures in our Centre was tailored and incorporated to our three-in-1 exsanguinating pelvic fracture protocol. With appropriate fracture reduction and pre-operating planning and assessment, we observed a significant shift in our practice from traditional ORIF to MIS guided by 3D-navigation on pelvi-acetabular fracture. Our cumulative experience on this technique revealed high fracture union rates and low complication rates. We believe that 3D-navigation MIS is a safe and effective alternative for most pelvi-acetabular fractures.

Masterclasses

M4.3 Advances in Trauma Management 14:30 Room 221

Current Concepts on Neurotrauma and Neurocritical Care

Mak CHK
Department of Neurosurgery, Queen Elizabeth Hospital, Hong Kong

In this lecture, clinical signs and symptoms of traumatic brain injury (TBI) will be introduced, as well as the Glasgow Coma Scale which is widely used as triage purpose and continuous monitoring of patients. Clinical and radiological features of typical intracranial injuries will be discussed, including subdural hematoma, epidural hematoma, diffuse axonal injury, brain contusion and generalised cerebral edema. The concept of intracranial pressure (ICP), cerebral perfusion pressure (CPP) and the associated physiological response in traumatised brain will be discussed, as well as methods and role of ICP monitoring in TBI patients. Finally, management of elevated ICP will be introduced along with evidence based approach to neurocritical care.

M4.4 Advances in Trauma Management 14:30 Room 221

Updates on Interventional Radiology in Trauma Management

Wong KYK
Department of Radiology and Intervention, Queen Elizabeth Hospital, Hong Kong

Diagnostic and interventional radiology has long been a major player in the management of trauma patients with diagnostic radiology. With emergence of better scanning equipment and interventional tools, interventional radiology (IR) is becoming more and more important as a partner to surgical management in trauma. Newer hybrid angiosuites that can accommodate a surgical table and state-of-the-art angiogram C-arms allow laparotomies and IR management to take place on the same table. In thoracic trauma, more stent graft choices allow management of some aortic trauma. Improved techniques as well as a variety of embolization agents and tools can allow arterial hemostasis in a variety of arteries that may not be immediately assessable to surgical exploration. In Kowloon Central Cluster, pelvic angiogram and embolization is incorporated as a part of the 3-in-1 pelvic trauma management protocol to achieve pelvic hemostasis in suitable trauma victims. In conclusion, IR management in trauma can be an adjunct to surgical trauma management or as an alternative to surgical management in various trauma scenarios.

M5.1 Orthopaedic Sports Injuries Revisit 16:15 Convention Hall A

Common Sports Injuries of the Knee and the Shoulder: The Facts and the Myths

Wong YB
Department of Orthopaedics and Traumatology, Queen Elizabeth Hospital, Hong Kong

Knee and the shoulder injuries are common sports-related injuries and have been the subject debate and research for decades. It is our purpose to examine the current evidence from a scientific point of view, and establish the facts about these common conditions.

We are going to clarify some myths about the anterior cruciate ligament (ACL) that it ACL is usually torn due to direct impact in sports; ACL injury occurs more often in men; all complete ACL tears require surgery; ACL reconstruction is only performed on complete tears; the bone-patellar tendon-bone (BPTB) is the strongest graft; ACL reconstruction surgery requires a long hospital stay and long rehabilitation period; and re-injury rates are high.

We are also going to discuss the predisposing factors for patellar dislocation, the myths that patients may grow out of it, or get trained out of it; there is no need to seek medical help and remain largely asymptomatic; surgery is rarely necessary but rather straightforward if needed, yet with unpredictable results.

For shoulder injuries, we will revisit the mechanism of dislocation and elucidating the myths that there is no need to go to hospital for reduction; surgery is never necessary for first time dislocators; and surgery is straight forward and easy.

On rotator cuff tears, we will go through the common mechanism of injury, and address the various myths on investigation, diagnosis, pre-operative exercise, injections, surgery, and rehabilitation. Finally, we hope to differentiate facts from fiction by carefully examining available evidence.

M5.2 Orthopaedic Sports Injuries Revisit 16:15 Convention Hall A

Ankle Sprain is Common but Not Always Simple

Chan KB
Department of Orthopaedics and Traumatology, Tuen Mun Hospital, Hong Kong

Ankle sprain is a general term to describe injury around the ankle ligaments, most commonly on lateral side of the ankle resulted in lateral ligaments injury or tear. It usually results from inversion injury in which the lateral ligaments are injured.

It is the most common injury in young athletes. Epidemiological studies from the US had estimated incidence rate of ankle sprain in general population to be between 5 to 7 sprains per 1,000 person-years. Local data from Accident and Emergency Department, Tuen Mun Hospital had shown that there were about 1,500 consultations in 2017. The incidence was about 2 to 3 sprains per 1,000 person-years.

There are several possible risks factors, athlete, basketball or football players are prone to injury especially after jump when they landed on other's feet resulted in inversion injury. Others might have underlying predisposing factors such as varus hindfoot in which they are also prone to repeated ankle sprain. Gender, height, weight and BMI also had no conclusive evidence on increasing incidence of ankle sprain. Research team from South Korea found that wearing high heel shoes can put your ankle at risk. Journal of Foot and Ankle Surgery also reported that increasing incidence in high-heel related injury, 7,000 in 2002, 14,000 in 2012.

Ankle sprain carries a major impact on the healthcare cost and in the US, two billion dollars was spent on treatment of sprain. In addition to financial cost, these injuries are also associated with significant time lost to injury, delayed return to duty and long-term disability in up to 60% of patients. Research had been shown that chronic ankle instability in around 15-20 % of patients even if they were properly treated. Surgical intervention might be needed in those patients.

In fact, not every ankle sprain is simple and the same. There are other conditions look alike but requires different treatment modalities. Those conditions will be highlighted, and principles of management will be discussed briefly.

Masterclasses

M5.3 Orthopaedic Sports Injuries Revisit 16:15 Convention Hall A

Rehabilitation Journey in Public Hospital: from Injury to Return to Play

Ng RKW
Physiotherapy Department, Pamela Youde Nethersole Eastern Hospital, Hong Kong

Pamela Youde Nethersole Eastern Hospital is one of the Hospital Authority hospitals providing sports medicine and rehabilitation service. Among the injury population, majority of them are suffering from shoulder and knee injuries, the spectrum of injuries spreads from shoulder dislocation to ACL tear. As a public hospital, our clients are general public and amateur sportsman rather than the elite teams; majority of them are working population and some are school team players.

Resources are both limited to medical and patient's side, surgeries have always been as timely as possible although waiting list is long. On the other hand, patients would not have much time for the entire rehabilitation as they have to go back to work or school. We do not have an accelerated rehabilitation programme as in the elite sportsman stream. Physiotherapy training will be intensive in the first few months to compensate the foreseeable decline in training compliance once patients have to return to work or school. Pre-operative physiotherapy training is important in training up and preserving the muscle power prior to surgeries for getting a better rehabilitation outcome. Pain management is another area that physiotherapists have to deal with both pre- and post-operatively. In the later stage of rehabilitation, patient empowerment and education are crucial, patients are encouraged to continue the training if they have accessibility to fitness room after they have to resume work or school.

Patients will be recommended to return to play when the rehabilitation programme completed and/or their symptoms subsided. Cybex assessment is one of the ways to assess and monitor patient's performance and training outcome. Since these amateur players may not have professional coach to guide them when they return to play after injury, training and education on prevention of future injuries is essential.

M5.4 Orthopaedic Sports Injuries Revisit 16:15 Convention Hall A

Musculoskeletal Problems Due to Overuse, Overtraining and Overconfidence

Wun YC
Department of Orthopaedics and Traumatology, Tuen Mun Hospital, Hong Kong

Inactivity and obesity are well recognised as a global public health problem and contributing causes of many chronic diseases. There is increasing awareness of the health benefits of sports. In Hong Kong, the number of participants in organised and recreational sports has grown considerably over the last decade. Under the influence of health concern, peer group pressure, popularity of social media, goals of elite-level, potential link to academic opportunity and collegiate scholarships, sports participants commonly shifted the emphasis on competitive success and striving for excellent performance. The unrealistic demand for performance enhancement and training errors predisposed the increasing incidence of overuse injuries.

Overuse musculoskeletal injuries may result in growth-related disorder in child and adolescent athletes. Repetitive microtrauma with insufficient physiological repair and recovery leads to stress fractures of bone, muscle strains and resistant tendinopathy. In fact, the incidence of overuse musculoskeletal injuries well exceeds the number of acute sports injury. The treatment is usually challenging and required multidisciplinary contribution, involvement of coaches and parents sometimes.

Overtraining syndrome is a well-defined clinical entity which is a maladaptive response to training overload and detrimental not only to performance but also general health status. It is seen more commonly as an increasing number of amateur athletes participating in endurance sports.

Overconfidence and premature return to sports after injuries is a major risk factor predisposed to re-injury and permanent physical impairment.

Prevention of overuse sports injury is of paramount importance depends on physical fitness, appropriate training and healthy mindset.

M6.1 Enhancing Medical-social Collaboration for Elderly Patients 16:15 Convention Hall C

What Should the Care for Older Persons Look Like by 2028?

Au Yeung TW
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Now in 2018, we dream by 2028, we can realise: Ageing in place, care in place, and dying in place. To achieve these goals, we need to build up an infrastructure of ambulatory outreaching service to support and materialise:

"Hospital" at home
"Care home" at home
"Hospital" at care home

This can only be built on a socio-medical collaboration model – integrating medical care with community-based personal care through empowerment of NGOs to carry out healthcare services, network building between hospital care, primary healthcare and community health care, geron-technology to assist activities of daily living. Last but not least, IT development for tele-assessment, tele-health monitoring and support.

Great barriers are in front of us to overcome. They include segregation of welfare and health administration at government level, medico-legal issues and legislation barrier against "dying in place", high cost of home-based services, and medicalisation of ageing and dying.

M6.2 Enhancing Medical-social Collaboration for Elderly Patients 16:15 Convention Hall C

Orthogeriatrics Collaboration at Tai Po and New Territories East Cluster

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Collaboration between orthopaedics surgeons and geriatricians is a corporate initiative to face an ageing population. The vast majority of hip fracture patients are over the age of 75. Many of these suffer other co-morbidities, which required early medical management to facilitate timely operation. During the post-operative and rehabilitative periods, common geriatric syndromes such as delirium, retention of urine, unrecognised pain, and poor social support will all hinder recovery and their ability to return to the community. With these in mind, the orthogeri collaboration programme was started in October 2017 in Alice Ho Miu Ling Nethersole Hospital (AHNH) and Tai Po Hospital (TPH) in Tai Po.

At the same time, Food and Health Bureau has also recognised the need of these patients and has started funding a Medical Social Collaboration. This programme links multiple non-governmental organisations to support via a designated social worker under the Social Welfare Department to provide post-discharge community/social care support, so that those with poor social or family support can avoid institutionalisation. Another component of this programme is for the geriatrics outreach team to provide professional case manager service similar to the Integrated Care Model, for home-based rehabilitation in suitable patients.

Encompassing these two programmes, the geriatrics, orthopaedics, and community outreach service teams at TPH and AHNH has been working together on a daily basis since October 2017. We would like to share our experience, discuss the challenges we have resolved, and those we are still facing.

Masterclasses

M6.3 Enhancing Medical-social Collaboration for Elderly Patients 16:15 Convention Hall C

Medical-social Collaboration in the Dementia Community Support Scheme – An Experience from District Elderly Community Centre

Chan AFM
Active Aging and Health Services, Christian Family Service Centre, Hong Kong

Dementia Community Support Scheme demonstrates a sustainable and effective medical-social collaboration model between health and social care sectors. The Scheme aims to enhance community support to elderly persons with mild to moderate dementia so as to enhance their cognitive and functional level, quality of life, and to better support carers.

Under the medical-social collaboration model, the Scheme is more than service referral and post-discharge support, it helps users better manage chronic disease and to facilitate health care outside the hospital walls. The Scheme provides chances to cross-disciplinary communication for better patient outcome and enhances the expertise of staff of non-governmental organisations at the community level in provision of dementia support services to the elderly persons.

M7.1 Patient Blood Management – from Overseas to Local Practices 16:15 Theatre 2

Patient Blood Management – Results from Australia and Leading Centres around the World

Hofmann A
School of Surgery Faculty of Medicine Dentistry and Health Sciences, University of Western Australia, Australia

From 2008 to 2012 the world's largest Patient Blood Management (PBM) programme was implemented under the auspices of the Western Australia (WA) Department of Health. It was designed as a quality, safe and effective initiative with resource and economic implications. The primary aim was to improve medical and surgical patient outcomes while achieving significant cost savings by applying PBM principles.

The programme results were shown in a retrospective observational study including all emergency and elective adult acute-care multi-day stay inpatient admissions (n=605,046) to the four major WA adult tertiary-care hospitals between July 2008 and June 2014. These hospitals perform majority of high-complexity procedures in the state including major trauma, burns, and obstetrics referral services. Comparing final year with baseline, patient outcomes improved significantly: In-hospital mortality was reduced by 28% (95% CI, 0.67 – 0.77; P<0.001), infection by 21% (95% CI, 0.73 – 0.86; P<0.001), AMI/Stroke by 31% (95% CI, 0.58 – 0.82; P<0.001), and average hospital length of stay by 15% (95% CI, 0.84 - 0.87; P<0.001). At the same time, blood product utilisation was reduced by 41% with product acquisition cost savings of AUD18.5 million and estimated activity-based cost savings of AUD80 - 100 million1. Meanwhile, the Australian Commission on Quality and Safety in Health Care made PBM a national priority and the National Safety and Quality Health Service Standards included PBM in their system.

PBM programmes around the world are showing similarly good results in terms of outcomes and resource utilisation2,3. Following the 2010 World Health Assembly Resolution 63.124, the European Commission is now also recommending the implementation of PBM as a standard of care 5,6. On a global scale, the implementation of PBM has the potential to improve morbidity and mortality for millions while saving health systems well above 100 billion dollars annually.

M7.2 Patient Blood Management – from Overseas to Local Practices 16:15 Theatre 2

Patient Blood Management – Local Perspectives

Lie AKW
Department of Medicine, Queen Mary Hospital, Hong Kong

Blood transfusion is a well-established treatment modality to support many medical and surgical conditions which range from simple to often complex procedures. Efforts in the past to ensure a safe, efficient and quality blood supply and transfusion service have provided a very positive and reliable image to the general public and medical field alike.

Locally in Hong Kong, based on current trend, the potential demand for blood transfusion is expected to be continuously increasing in coming years. This is due to an increasing and, particularly, aging population associated with expansion of various areas of medical and surgical services. In recent years, there were repeatedly occasions where an adequate supply of blood components was put to the test. While Hong Kong is an established hub for a large volume of interflow between the East and the West, it is also very much exposed to the risk of an expanding array of transfusion-transmitted infection. This puts pressure on the need and resources to ensure an adequate supply of safe blood components, potentially pushing up the production cost of safe blood components.

To meet the above challenges, it is high time to encourage and develop a rational and evidence based practice of patient blood management (PBM). Overseas experience has demonstrated that optimising transfusion activities is associated with improvement in patient clinical outcomes, while at the same time reduce transfusion need together with cost saving economically. As PBM involves significant culture and system changes, engagement of senior clinical and management leadership together with education and promotion amongst every level of health staff is essential.

Masterclasses

M7.3 Patient Blood Management – from Overseas to Local Practices 16:15 Theatre 2

Transfusion Alternatives

Lau CW
Collection and Recruitment Department, Blood Transfusion Service, Hong Kong

Transfusion is one of the most commonly used treatment forms in modern medicine. However, increasing evidences is pointing to the risks of allogeneic blood transfusion, including unprecedented infectious risk, allo-immunisation, major transfusion reactions, and adverse clinical outcomes that prolong hospital stay, result in higher in-hospital mortality, higher hospital acquired infection, and higher risk of stroke and cardiac attack.

On the other hand, with the emergence of infections and the worldwide problems of an ageing population, there is imminent threat in maintaining a safe and adequate supply of blood globally. In view of the safety concerns associated with allogeneic blood transfusion and the challenges of blood supply, WHO announced the worldwide implementation of Patient Blood Management in 2011. In its concept paper, the two main priorities were to rationalise the use of allogeneic blood and to establish evidence for transfusion alternatives.

Over the past decade, transfusion alternatives have been put into practice in a large number of clinical trials covering wide varieties of clinical scenarios to build up evidence of efficacy and safety of their uses. Subsequently, meta-analyses were performed to demonstrate their uses across multiple clinical trials. Next, evidences were incorporated into clinical guidelines. Finally, standard of care for anaemic and/or bleeding patients were established, followed by regular audits to compare the compliances against the standards.

In conclusion, the three main elements in managing anaemic and/or bleeding patients are:
Maximising endogenous red cell production through pharmacotherapy;
Minimising blood loss through pharmacotherapy and various maneuvers; and
Apart from primary blood production disorders, transfusion is considered as an interim means to stabilise patients before the former two measures come to work.

In the presentation, intravenous iron and intravenous tranexamic acid will be discussed. Many influential papers and updated guidelines will also be reviewed.

PS1.1 Patient Monitoring – Inpatient, Outpatient and Home Monitoring 13:15 Theatre 1

Integrating Sensors and Wearables into Mainstream of Healthcare: Opportunities, Issues, and Considerations

Ho K
Faculty of Medicine, University of British Columbia, Canada

This presentation will explore the use of wearables and sensors in health and how they can be judiciously introduced into health system to contribute to patient care. Participants will:

(1) Understand the principles why wearables and sensors are valuable tools to support patient wellness and disease management.

(2) Study examples in British Columbia of prescribing sensors and wearables to patients to improve patient and health system outcomes.

(3) See emerging trends in sensors and wearables that will influence how healthcare will be delivered in the future.

PS1.2 Patient Monitoring – Inpatient, Outpatient and Home Monitoring 13:15 Theatre 1

Internet of Things Applications for Healthcare and Wellness Management

Zhang Q
Department of Computer Science and Engineering, The Hong Kong University of Science and Technology, Hong Kong

China's medical service system has been focusing on treatment, which forms public hospitals' core business while revenue all comes from treatment services. But with the gradual formation and implementation of "Health China" National Strategy, the development of ageing population and the emphasis on health by China society, "preventive care, home care and personal care before hospital admission, and rehabilitation care after hospital discharge" will become new focuses strongly supported by governments and society.

In this presentation, some innovation related to new health service model by leveraging internet of things (IoT) technologies will be presented. Some of our work related to sleep monitoring, dietary monitoring and exercise assessment with IoT support will also be shared.

Parallel Sessions

PS1.3 Patient Monitoring – Inpatient, Outpatient and Home Monitoring 13:15 Theatre 1

Building the Hospital Authority Patient App

Fung V
Information Technology and Health Informatics Division, Hospital Authority Head Office, Hong Kong

Hospital Authority is developing a consolidated patient mobile application to serve as a single platform to facilitate enhancement of patient experience and health outcome. The Innovative use of technology helps to promote partnership with patients, empower patients for self-care and engage patients in decision making about their care. It also helps clinicians to devote their time for those who are in need.

PS2.1 Can Fin Tech Help? 14:30 Convention Hall C

Application of Financial Technology

Li AWL
The Hongkong and Shanghai Banking Corporation Limited, Hong Kong

The development of eCommerce and mCommerce have progressed rapidly in recent years, boosting the demand for instant payment solutions. Currently, there are more than 18 instant payment schemes around the world – and more are expected to be in place. Hong Kong, as a leading financial centre, is developing the Faster Payment System (FPS) to facilitate peer-to-peer (P2P) fund transfers among individuals and companies, ie customer-to-business (C2B), business-to-business (B2B) and business-to-customer (B2C).

How would FPS re-shape the payment landscape and what does it mean to customers, merchants and corporates? In particular, what is the implication and application to the healthcare sector? How do patients and hospitals benefit from this new infrastructure?

PS2.2 Can Fin Tech Help? 14:30 Convention Hall C

Life is Easy with E-wallet

Lee V
Ant Financial Service Group, Hong Kong

Alipay was launched in 2004 and started as an escrow service to support online purchase in Mainland China. After a decade, Alipay has evolved to be a digital wallet with 520 million active users that provides convenience for both online and offline payment in 40 countries and regions, and further become a lifestyle enabler that enhances lifestyle to create more convenience and delights.

In this presentation, the journey of e-wallet evolution and how it has merged into people's daily lives, and some examples of how it has been applied in the medical scenarios will be shared.

Parallel Sessions

PS2.3 Can Fin Tech Help? 14:30 Convention Hall C

Application of Fin Tech in Hospital Setting

Chung KL
Quality and Safety Division, Hospital Authority Head Office, Hong Kong

Financial Technology (Fin Tech) brings radical changes to the financial services industry. It drives new business model and reinvents its services towards customer-centred solutions. In healthcare service sector, can Fin Tech make changes and improve patient experience?

With the ever increasing service demand and elevated expectation from the society on the Hospital Authority (HA), patient-centred care with continuous streamlining of workflow through adoption of IT solutions are important to facilitate HA in maintaining quality patient care services. Besides the clinical services that usually attract public attention, non-clinical frontline services are of paramount importance that affects patient experience in hospital setting. Billing and fees collection are among those frontline services that come into contact with patients frequently.

From hospital management perspective, this presentation provides an overview on HA's journey in automating the billing and fee collection processes; and share the visions on modernising these processes by leveraging on Fin Tech to enhance patient experience and improve operation efficiency. Expected challenges faced by the hospital management will also be highlighted in the presentation.

PS3.1 Clinical Application of Hyperbaric Oxygen Therapy 16:15 Theatre 1

The Clinical Role of Hyperbaric Oxygen Therapy in the 21st Century

Bennett M
University of New South Wales, Australia

Introduction

The history of hyperbaric medicine has been a difficult one. From origins in the 19th century "wellness" industry – where hyperbaric air spas were common throughout Europe and North America - through the enthusiasm of early pioneers who suggested hyperbaric oxygen therapy (HBOT) could cure a wide range of conditions, to the modern, evidence based approach, it has been a colourful journey. This presentation will put modern HBOT into its historical context and outline the likely future for this therapy.

The Modern Context:

In 1973, the Undersea and Hyperbaric Medical Society (UHMS), facing increasing pressure from funders and physicians outside the field, made the first serious attempt to examine the evidence base for common indications. From a list of more than 170 conditions examined, sufficient clinical and experimental evidence could be found to support the routine use of HBOT in only 13. Since then, few new conditions have been added to this list. The latter two decades of the 20th century and the first years of the 21st century have been ones of consolidation and rationalisation. The field has increasingly been forced to confront a patchy evidence basis and several modestly powered randomised controlled trials have re-examined all of the "traditional" indications with mixed results. Hyperbaric physicians have only recently come to a full understanding of the requirements for acceptance into the contemporary therapeutic arsenal. The primary challenge remains the full integration of HBOT services into the modern medical system in a rational manner that efficiently utilises a relatively costly resource.

Summary

The opportunity in the 21st century is to use both sound clinical and mechanistic arguments to persuade colleagues of the place of HBOT in their own areas. It is important to encourage participation of a broad range of specialties within the hyperbaric service in order to achieve this goal.

PS3.2 Clinical Application of Hyperbaric Oxygen Therapy 16:15 Theatre 1

Critical Issues of Hyperbaric Oxygen Treatment for Intensive Care Unit Patients

Yan WW
Department of Intensive Care, Pamela Youde Nethersole Eastern Hospital, Hong Kong

The common indications of hyperbaric oxygen treatment (HBOT) for intensive care unit (ICU) patients in developed areas are necrotizing fasciitis, carbon monoxide poisoning, arterial gas embolism and decompression illness. Except for the latter two indications, which are widely accepted, most indications of HBOT are considered adjunctive therapy or controversial. ICU doctors should base on its potential benefits and possible risks to decide whether HBOT should be adopted.

For critically ill patients, HBOT is preferably done in multi-place chamber rather than mono-place chamber. Multi-place chamber enables the healthcare professionals to have direct access to the patients in case complications arise during treatment.

ICU staff should be familiar with the HBOT preparations. For intravenous infusions, there should not be any air entrainment inside the tubing. For intravascular pressure monitoring, the volume of air in the pressure bag must be adjusted during descent and ascent. The battery-run monitoring equipment should not be used inside the chamber because of fire hazard. For setting up central venous line for the patient, subclavian puncture should be avoided because of its inherent higher risk of pneumothorax. Water instead of air should be used for endotracheal or tracheostomy tube cuff inflation. For mechanical ventilator, the set tidal volume and rate may differ under hyperbaric situation. The actual delivered tidal volume must be monitored by a calibrated spirometer. Hyperbaric ventilator is now available in the market and ventilator settings need not be adjusted during compression and decompression. All expired gas should be scavenged. Otherwise, the oxygen concentration inside the chamber would increase and hence a fire risk. For chest drain drainage, air-fluid levels during descent or ascent must be monitored. Heimlich valve is a handy alternative to underwater seal box or chest bottles. Nasogastric tubes should be left open to bedside bag.

Parallel Sessions

PS3.3 Clinical Application of Hyperbaric Oxygen Therapy 16:15 Theatre 1

Hyperbaric Oxygen Cases Managed in Stonecutters Island

Woo WM
Labour Department, The Government of the Hong Kong Special Administrative Region

Up to 1994, recompression therapy was provided in Hong Kong by the UK Royal Navy at one of its bases, the HMS Tamar. Therapy was only available for the treatment of diving related conditions. In April 1994, the Recompression Treatment Centre (RTC) on Stonecutters Island was opened. Hyperbaric oxygen (HBO) therapy is given to patients by means of a compression chamber. The facility is operated by the Hong Kong Fire Services Department under the medical supervision of the Occupational Medicine Division of the Labour Department. Over the years, hospitals referred a variety of diving-related and other conditions were treated in the Recompression Treatment Centre on Stonecutters Island such as decompression illness, carbon monoxide poisoning, osteoradionecrosis and so on. Fire Services Department and Labour Department would mobilise their staff to provide treatment for the cases. The history, operation and the statistics of HBO cases would be briefly discussed.

PS4.1 Collaborative Service Programmes 16:15 Room 221

Transdisciplinary Seating and Wheelchair Service in Prince of Wales Hospital – A 20-Year Collaboration of University, Hospital Authority and Corporate Community Support

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[1]Occupational Therapy Department, [2]Prosthetic and Orthotic Department, [3]Physiotherapy Department, Prince of Wales Hospital, Hong Kong

The Seating Clinic and Wheelchair Bank has been serving the disabled children for 20 years since it was established in 1996. It was the first of its kind dedicated to help children with the most severe neuromuscular diseases in Hong Kong with the collaboration of Prince of Wales Hospital, The Chinese University of Hong Kong, The Hong Kong Polytechnic University and Corporate Community Support.

The seating clinic is supported by a multidisciplinary team including Paediatric Orthopaedic Surgeon, Rehabilitation Engineer, Physiotherapist, Occupational Therapist, Prosthetist-Orthotist and Technical Assistant. It provides an one-stop clinical service to the children with multiple disabilities, thereby taking care of their medical, functional and educational needs by means of detailed clinical assessment and intervention. The Wheelchair Bank is funded by corporate community to equip the bank with hardware of specialised seating, mobility devices and technologies.

The unique concept of wheelchair bank is to maximise the usage by recycling the wheelchairs and sharing among the needy children. With the establishment of the bank of different models, size and modular component, our clinic provides a whole range of specialised systems for therapeutic seating management. This collaboration model has benefited more than 537 children with more than 6,000 wheelchairs and devices prescribed and customised to patients in the past 20 years. The wheelchair loan service has provided more than 750 times of wheelchair loan. There was a maximum of 10 loans for a single wheelchair and maximum of eight loans for a single client until skeletally mature.

Our multidisciplinary team provides services to children through a transdisciplinary approach based on the experience accumulated over the past 20 years.

In addition to providing tertiary services to the needy children, we also establish international connections, and collaboration for knowledge exchange as well as the unique “BANK” concept and team approach model to other local centres with a mission to benefit more children.

PS4.2 Collaborative Service Programmes 16:15 Room 221

New Territories East Cluster Pressure Injury Prevention Programme: A Three-Year Collaboration Programme between Occupational Therapists and Nurses in Prince of Wales Hospital

Leung TLF
Department of Occupational Therapy, Prince of Wales Hospital, Hong Kong

Pressure injury prevention is always the top priority in in-patient care, as it can lead to life threatening complications such as sepsis, cellulitis or even bone and joint infections. High incidence of sacral ulcer development during in-patient hospital stay was recorded, especially on oncology patients with prolonged prop up in bed due to orthopnea, ascites, bone pain, edema etc. According to the data from the Prince of Wales Hospital (PWH) from March 2016 to November 2016, sacral ulcer incidence rate is 81.8%, which is the highest among different sites of pressure ulcers development, and is far higher than the ankle and heel ulcer, the second highest incidence accounting for 5.1%.
In view of the high incidence of sacral ulcer and potential lethal complications, there is an urgent need for new strategy to prevent sacral ulcer development in patients at risk.

On the other hand, the heel is at increased risk of ulceration due to its posterior prominence and lack of padding over the calcaneus. All bedridden patients need to be considered at risk of pressure ulcers on the heels. Clinical evidence concerning the efficacy of pressure redistribution surfaces or heel protection devices is sparse. Existing evidence suggests that pressure redistribution surfaces vary in their ability to prevent heel pressure ulcers, but there is insufficient evidence to determine which surfaces are optimal for this purpose.

As heel pressure ulcer ranks the second in incidence, evidence-based approach is urgently needed to determine the effectiveness of available heel protection devices for the prevention of heel pressure ulcer.

Occupational therapists and nurses in PWH have worked together closely for the past three years in improving the service in preventing pressure injuries with different innovative ideas.

Parallel Sessions

PS4.3 Collaborative Service Programmes 16:15 Room 221

Physiotherapy Restoration Rehabilitation Programme for Lower Limb Fracture and Arthroplasty on Weekends and Public Holidays – Local Experience Sharing

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Introduction

Lower limb fractures especially hip fractures and arthroplasty are the commonest causes of orthopaedic admission. Current evidence suggested that early mobilisation facilitated rehabilitation and reduced hospital stay. Physiotherapy (PT) service for lower limb fracture and arthroplasty in acute setting on weekends and public holidays (365-PT Service) has been implemented in Pamela Youde Nethersole Eastern Hospital (PYNEH) since October 2017 in accordance with the Strategic Service Framework.

Objectives

To evaluate the status and effect of 365-PT Services in PYNEH.

Methodology

Patients with hip fracture and arthroplasty admitted to PYNEH from October 2017 to February 2018 and received 365-PT Service were recruited. Their clinical and service outcomes including Modified Functional Ambulation Classification (MFAC), Elderly Mobility Scale (EMS), length of hospital stay (LOS) in PYNEH and their discharge destinations from convalescent hospital were collected and compared with the data of patients with the same diagnostic group captured in 2015 and 2016.

Results

From October 2017 to February 2018, 1,007 patients received the 365-PT Services (on 19 Saturdays and 31 Sundays/Public Holidays). 60% of them were post-operative hip fracture cases, 24% of them were patients with arthroplasty and the rest 16% were post-operatively cases of other lower limb fractures. For those cases with post-operative hip fractures, their average LOS_PY (7.1 days) were decreased when compared with those in 2015 (9.1 days) and 2016 (8.7 days). And there were no significant differences in the MFAC and EMS on discharge to convalescent hospital for further rehabilitation. Following through their discharge destination after convalescent hospital stay, the “discharge to patient’s home” proportion was higher after 365-PT Service (65%) as compared with 2015 (55%) and 2016 (55%).

Conclusions

Decrease in LOS was found in this patient group after implementation of 365-PT Service. With shorter hospital stay, those patients achieved similar clinical outcomes earlier before transfer to convalescent hospital. There were higher proportion of patients who lived home prior to admission to be discharged to their original destination after rehabilitation. Aligned with current studies, this 365-days active physiotherapy intervention facilitates earlier discharge of patient in acute setting and in the long run may have better functional outcome as reflected in higher rate of home-discharge.

PS4.4 Collaborative Service Programmes 16:15 Room 221

A Stepped-care Model with the Support of Psychology Assistant in Clinical Psychological Service

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The service review of clinical psychological services in Hospital Authority (HA) in 2008/09 by an external consultant showed that the number of clinical psychologists (CP) in HA was less than required. In the recommendation, the consultant suggested to differentiate the core from non-core duties of CP and to adopt a Stepped-care Model to address the needs of patients. In this connection, a Psychology Assistant (PA) post, which is equivalent to a supporting rank of Patient Care Assistant I (PCAI), was established.

The Stepped-cared Model, which was based on the Improving Access to Psychological Therapies Programme (IAPT) in UK, addressed mainly the common mental health problems such as depression and anxiety. This model aims at maximising effectiveness and efficiency about resource allocation in therapy, and defining service to be provided along the stepped-care spectrum including low and high-intensity therapies. The Stepped-care Model was piloted in palliative care programmes and primary care service in 2012/13. Results of outcomes studies, in terms of quality and efficiency, in both services were encouraging. Up to now, there are 25 PAs in seven clusters, serving specific programmes or rendering support to different services, including adult mental and medical services, child and adolescent mental health services, palliative care and primary care services. Another evaluation with data collected from 2012 to 2015 also reviewed similar improvement in service efficiency and quality as measured by standardized outcome measures.

The success of the Stepped-care Model with PA taking up the low intensity duties of clinical psychologists consistently showed improved service quality and efficiency in settings which applied the model. This model is applicable across programmes and services, and is cost-effective, sustainable and highly recommended to become a standard model of clinical psychological service for wider application in HA.

Service Enhancement Presentations

F1.1 Better Manage Growing Demands 10:45 Room 421

Success Model of Pre-discharge Lounge in Department of Medicine of Queen Elizabeth Hospital

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Introduction

Emergency department (ED) access block is an urgent problem faced by many public hospitals today. It increases ED waiting time and leads to ED overcrowding. It affects the efficiency and quality of care, and increases incidence of adverse events as well as mortality.
To alleviate access block, Pre-discharge Lounge (PDL) was set up as a pilot programme in Department of Medicine in Queen Elizabeth Hospital. This lounge is designed for patient to wait for transport and discharge arrangements.

Objectives

To assess if the PDL can facilitate patient flow with effective use of inpatient acute care beds; (2) to reduce admission waiting time; and (3) to review overall patient experience and satisfaction outcomes.

Methodology

Taskforce on PDL was formed under the Department of Medicine. Access block factors were identified and an innovative service model for discharge was developed.

The lounge was available for use by patients on the day of discharge or transfer and awaiting completion of discharge arrangements. In PDL, nursing care such as hygiene, nutrition, administration of medications was continued and patient education was also conducted. Beds and sitting facilities are available for up to 12-14 patients.

Operating hours of PDL is from 10am to 7pm weekdays supported by nurses, supporting staff including clerical staff, patient care assistant and sunshine transport team, and with emergency support from medical team.

Booking and logistic workflows were introduced to wards. Patients who meet met the criteria for PDL could be arranged to PDL by ward staff will be informed by staff and escorted to PDL by sunshine transport team. The effectiveness of PDL was evaluated based on bed utilisation; number of patients in ED access block and workload distribution in wards was compared before and after PDL was set up.

Results

The first phase was (winter surge) from 30 December 2016 to 12 May 2017 and the second phase was (summer surge) from 24 July to 29 September 2017. 1,151 and 803 patients were transferred to PDL during winter and summer surge with 90 & 62 bed days saved respectively. The ED access block was decreased from 1,655 to 278 patients, and admission time was reduced from 15:00 hours to 12:00 hours when compared to with 2016 winter surge.
Moreover, 150 satisfaction questionnaires were received from patients (19% return rate) in second phase. 82% and 18% rated excellent and good in the overall experience in PDL respectively. The result reflected that PDL provided a good environment, smooth discharge arrangement and better care with discharge education. It facilitates ED patient flow and expedites patient discharge.

Conclusion

PDL can provide a safe and comfortable area for patient to wait for discharge. This new discharge service significantly improved patient flow and effective use of bed to decrease access block in ED. In conclusion, PDL should be promulgated and included in new hospital design.

F1.2 **Better Manage Growing Demands** **10:45 Room 421**

Golden Bullet Trigger for Old Engine-sustaining Benefit of 365-day Physiotherapy Service for Frail Elderly with Hip Fracture in Kowloon Central Cluster

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[1]Physiotherapy Department, Kowloon Hospital, [2]Physiotherapy Department, Queen Elizabeth Hospital, Hong Kong

Introduction

Meta-analysis supported the benefits of additional physiotherapy in decreasing hospital stay and enhancing clinical outcomes. 365-day physiotherapy service for lower limb fracture and arthroplasty in acute setting was implemented in Queen Elizabeth Hospital (QEH) since October 2017 in accordance to Strategic Service Framework (SSF).

Objectives

To evaluate the sustaining benefits downstream in extended care setting.

Methodology

Patients with hip fracture admitted to QEH and being transferred to Kowloon Hospital (KH) for rehabilitation were recruited. Patients provided with 365-day physiotherapy service were identified via Clinical Management System. Clinical outcomes including Numeric Pain Rating Scale (NPRS) for pain measurement, Modified Functional Ambulation Classification (MFAC) and Elderly Mobility Scale (EMS) for functional independence, walking aid used, and length of stay (LOS) in QEH post-operation and in KH were collected. Sex-, age-, diagnosis-, and operation-matched patients who stayed over weekend in QEH post-operation prior to the implementation of 365-day physiotherapy service were selected as controlled group.

Results

18 eligible hip fracture patients receiving 365-day physiotherapy service in QEH and being discharged from KH were identified from October to December 2017. 11 (61.1%) of them were female with mean age of 84.3±5.29 years old. The LOS in QEH post-operation did not differ between groups (8.5±4.0 vs 7.7±3.2). Nonetheless, there were considerably reduction in mean LOS in KH (4.1days; 25.2±6.2 vs 29.3±12.7) and total LOS post-operation (3.2days;33.7±7.6 vs 36.9±12.3) for patients receiving 365-day acute physiotherapy service. Although with decreased hospital stay, these patients also achieved earlier and similar significant clinical improvements (NPRS-4.06±2.2 to 1.4±2.2, MFAC-median of 3 to 4 and 33% achieving walking without manual assistance, EMS-4.0±1 to 8.4±4) exceeding minimally clinically important difference (MCID) at the time of admission to KH and pre-discharge from KH. Patients who lived home prior to injury were discharged to home at a similar percentage as controlled group.

The result was in accord with meta-analysis findings with worthy note of relatively frail elder in our cohort demonstrating sustaining downstream benefits. The early patient engagement in acute care for therapeutic intervention provided in weekend appeared to pull the golden trigger not just in acute rehabilitation but also in motivating (as reported in meta-analysis) and tuning the frail elderly for continuing of physical training in rehabilitation setting. This preliminary review of 365-day acute physiotherapy service reflected that even for frail elderly with compromised mobility still benefitted from the additional acute physiotherapy services. This more cost-effective service model may promote recovery and facilitate early safe discharge in matching the corporate direction stipulated in the Hospital Authority Annual Plan.

Service Enhancement Presentations

F1.3 Better Manage Growing Demands 10:45 Room 421

Effectiveness of Multidisciplinary Clinical Pathway for Geriatric Patients with Acute Osteoporotic Vertebral Compression Fractures

Cheung WY[1], Chiu PKC[2], Woo YC[2], Koon NF[1], Tsang PLC[3], Faan Y[4], Tsang P[5], Ng YL[6], Kwok TWW[7], Chan A[8], Kwong T[9], Fan TY[10], Kong LL[11]

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Introduction

Osteoporotic vertebral compression fracture is a common clinical condition requiring hospital admission. It does not only impact on the physical and psychological health of patients, but also on the demand for hospital services. Multidisciplinary treatment, including doctors, dietitians, nurses, occupational therapists, physiotherapists, prosthetist-orthotists and medical social workers is frequently required. To improve the management of elderly patients with acute osteoporotic vertebral fracture admitted to our department, a multidisciplinary clinical pathway was introduced in January 2016.

Objectives

A prospective cohort study was carried out to assess the effectiveness of this clinical pathway. Patients treated in the pathway were compared to those treated before the implementation of the pathway.

Methodology

A multidisciplinary clinical pathway was designed and implemented for management of patients aged more than 65 years admitted to our department for acute osteoporotic vertebral compression fractures. Patients recruited to the pathway from 1 January 2017 to 30 September 2017 were included in the study. Data including numeric pain score, elderly mobility score, modified Barthel Index on admission and upon hospital discharge, duration of acute and rehabilitation hospital stay were prospectively collected.

A retrospective review of patients admitted to our hospital before implementation of the clinical pathway from 1 November 2013 to 30 June 2014 was carried out to assess their length of stay in acute and rehabilitation hospital and the results were compared with those treated with the clinical pathway.

Results

113 patients were recruited to the clinical pathway cohort with a mean age of 82 years. 90 patients (80%) were female. Numeric pain score and elderly mobility score improved from 7 to 4 and 6 to 12 respectively after treatment. The Modified Barthel Index which reflected activities of daily living of slightly dependent or independent group increased from 7% to 23% after treatment. The differences were all statistically significant. The average length of stay in acute and rehabilitation hospital was 5 days and 8 days respectively.
160 patients treated before implementation of the clinical pathway were recruited to the retrospective review with an average age of 83 years. The average length of stay in acute and rehabilitation hospital was 7 day and 11 days respectively. The difference in acute hospital stay before and after implementation of the pathway was statistically significant.

Conclusion

A multidisciplinary treatment pathway for geriatric osteoporotic vertebral fractures can significantly improve patients' clinical outcomes and shorten the acute hospital length of stay.

F1.4 Better Manage Growing Demands 10:45 Room 421

Pilot Service of Occupational Therapy in Geriatrics at Hospital Front Door Programme

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Introduction

High medical inpatient occupancy rate persisted in Prince of Wales Hospital especially during winter surge. In March 2017, Occupational Therapy Department collaborated with Acute Care of Elderly unit (ACE) to provide Geriatrics at Hospital Front Door service (GFD) in order to promote early and safe supported discharge of elderly patients in Accident and Emergency Department (AED)/Emergency Medical Ward (EMW).

Objectives

(1) To screen patients in AED to prevent avoidable admissions;
(2) to enable early and safe supported discharge from AED/EMW; and
(3) to support "Through Train Service" in both AED and ACE in assessment and essential urgent service for discharge.

Methodology

In mid of February 2017, discussion was made on GFD and Community Rapid Response Team Service (CRRT) by the hospital management, Medical Officer in-charge, Nursing Consultants, and Department Heads of Allied Health (AH). The logistics of the pilot service by AH was developed rapidly in early March 2017. After reviewing the service need for geriatric OT service, five groups of elderly patients were selected for this OT pilot service. They were patients with cardio-pulmonary diseases, aspiration pneumonia, high risk of pressure injury or bed-chair bounded, recent fall incident as well as cognitive impairment. Elderly patients aged 65 or above under medical care in AED/EMW would be screened by geriatric nurse and those indicated for OT as the criteria mentioned above would be referred to us immediately. OT would conduct screening assessment in AED/EMW, provided interventions accordingly and home visit after discharge. Occupational Therapists started its pilot service for GFD on 13 March 2017 and ended it on 31 March 2017. All together 15-working day service was provided.

Results

30.77% of the elderly patients from both AED and EMW referred for OT in this pilot project could be discharged home directly. 13 patients were included in this pilot service and they had history of fall, cardio-pulmonary diseases, cognitive impairment, or pressure injury. OT provided immediate assessment and related interventions in AED/EMW accordingly. Nine patients were eventually transferred to Shatin Hospital for further management while four of them could be discharged home directly. Three of them required OT home visit and we could provide it within three working days post discharge. The majority of OT interventions included care-giver education, fall prevention, coordinated breathing and energy conservation techniques for ADL, and home safety advice.

All patients and caregivers showed their appreciation to OT intervention. They found the coping skills learnt were very useful and applicable. Onsite training and advice were highly relevant and easily understood by care-givers compared with the centre-based training. In the near future, OT would like to be in line with ACE to expand the service in GFD in order to meet the up-growing demand.

Service Enhancement Presentations

F1.5 Better Manage Growing Demands 10:45 Room 421

Direct Access Endoscopy Booking by Family Physicians: Evaluating a New Service Model and Clinical Predictors of Positive Endoscopy Findings at Primary Care Setting

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Introduction

Dyspepsia is a common clinical problem affecting 10–20% of the population in the Asia Pacific region and can have a variety of presentations e.g. pain, bloating, or gastroesophageal reflux (GERD). Around 15% of the Hong Kong primary care patients receiving endoscopy revealed peptic ulcer disease. In Hong Kong, patients who have dyspepsia and need an oesophagogastroduodenoscopy (OGD) are referred by their primary care doctor to surgeons or gastroenterologists, who would perform the OGD. Yet, the waiting time is very long. A further period of waiting time is required from the Specialist Outpatient Clinic (SOPC) visit to the endoscopy appointment (SOPC-to-endoscopy time). In order to shorten the waiting time for patients indicated for an endoscopy, a mode of open-access endoscopy was introduced in the UK in 1970s and was first available in Hong Kong in 1990s. At the Kowloon West Cluster (KWC), the Sham Shui Po (SSP) district General Outpatient Clinics (GOPCs) implemented the direct access endoscopy since late 2015 in collaboration with the Department of Surgery, Caritas Medical Centre (CMC). OGDs, which were performed by designated surgeons, were arranged by GOPC doctors directly after patients' assessment. Post-OGD follow-up care would be offered by GOPC.

Objectives

To evaluate a new direct access endoscopy model and the GOPC-to-endoscopy waiting time; (2) to review the endoscopic outcomes of patients under the direct access endoscopy programme; and (3) to idenfify clinical predictors for positive OGD findings for patients presenting at a primary care setting.

Methodology

A retrospective cohort study was carried out from 1 October 2015 to 31 December 2016 since the GOPC direct access endoscopy programme was started. Adult patients who had OGD booked directly at the five participating KWC GOPCs under the direct access endoscopy programme in the study period were included. Data were presented as mean with SD, median with interquartile range or count with percentage. Demographics and clinical characteristics variables of ulcer and non-ulcer groups were compared using Chi-square test, Fisher's exact test, independent t-test or Mann-Whitney U test. Variables with P <0.1 in the simple logistics regression analysis were included in the multiple regression model. Adjusted odds ratio and 95% CI were calculated. A P-value of <0.05 was considered statistically significant.

Results

198 patients were arranged direct access endoscopy under the programme. 173 patients completed OGD (default rate 12.6%). The mean GOPC-to-endoscopy time was 14 weeks (23.7% completed within 8 weeks). 26 patients (15.0%) had positive OGD findings (acute DU = 10; acute GU = 5; gastroduodeneal ulcer = 1; chronic DU = 3; oesophageal ulcer = 3; benign neoplasm = 2; pre-cancerous lesion = 1; adenocarcinoma of stomach = 1). Clinical predictors for a positive OGD included ever smoking status (adjusted OR 3.15; 95%CI 1.00-9.86; P 0.049), presence of epigastric pain on history (adjusted OR 3.32; 95% CI 1.19-9.26; P 0.022) and a positive H. Pylori status (adjusted OR 3.60; 95%CI 1.39-9.36; P 0.009). From the study, the direct access endoscopy model had shortened the GOPC-to-endoscopy time to a mean of 14 weeks as compared with conventional GOPC-to-SOPC-to-endoscopy waiting time. Only 22 patients (12.7%) in the cohort required SOPC follow-up and the rest of 87.3% patients were followed up by GOPC. The service had successfully identified serious pathologies within a reasonable period of time. The study included analysis of clinical predictors namely ever smoking status, presence of epigastric pain on history, and positive H. Pylori status which may be useful for the endoscopy queue triage purpose as patients may not be presenting conventional red-flag symptoms at a primary care setting.

F1.6 Better Manage Growing Demands 10:45 Room 421

New Service Model of Osteoarthritic Knee Management in GOPC setting – Conjoint Osteoarthritic Knee Programme with Physiotherapist and Doctor

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Introduction

Enhanced Public and Primary Services (EPPS) with Allied Health Physiotherapy (PT) at West Kowloon General Outpatient Clinic (WKGOPC) was set up since 2013. Until October 2016, 5,385 GOPC patients were referred to WKGOPC PT. 3,918 patients (72%) were screened with chronic musculoskeletal (MSK) problems and being treated under one-patient-one-physiotherapist service model. Among patients with various musculoskeletal concerns, 1,101 patients (28%) were diagnosed with osteoarthritic knee (OA knee) or knee pain. In August 2016, waiting time for MSK routine cases had been increased to 26.1 weeks. In order to shorten the long waiting time and meet the growing needs of chronic MSK patient group under limited manpower resources (One PT at WKGOPC), conjoint OA knee programme with GOPC PT and doctor was started in October 2016. Under a newly developed collaborative management program, it is believed that unduly long GOPC PT waiting time could be alleviated. Patients' expectation on their best understanding of the chronic disease and long term self-management skills could also be achieved.

Objectives

(1) To set up a new service model to shorten patients' waiting time to receive PT services; (2) to deliver a cost effective and efficient collaborative OA knee program in GOPC setting; (3) to treat and empower OA knee patients with respect to their appropriate level of care.

Methodology

Patients with non-acute knee symptom(s) and being diagnosed with OA knee (confirmed by X-ray finding) were referred by doctors from five different GOPCs in Sham Shui Po district. Firstly, patients were grouped to attend a one-hour conjoint OA knee class at WKGOPC (class size: 60), in which a GOPC doctor explained to patients on etiology, pharmacological and orthopedic management of degenerative knee; whereas PT educated patients on practical tips for symptom-control, home exercises and self-care techniques. Secondly, all patients were arranged to attend individual PT follow-up (FU) session (within six weeks after the conjoint knee class) for assessment, treatment and monitoring of knee conditions. In PT FU session, patients would be discharged if knee conditions improved, or with good exercise compliance and self-management skills. Patients could be referred back to consult GOPC doctor by PT if being screened with red flag sign or other comorbidity.

Results

Seven sessions of conjoint OA knee class are arranged from October 2016 to October 2017. 199 OA knee patients are referred (Mean age = 64±9.9 years; Male 52, Female 147). Retrospective cohort reviews that overall GOPC PT waiting time of MSK routine cases at WKGOPC is sustainably decreased after implementation of the conjoint knee class (Median waiting time: 22.4 ± 3.5 weeks versus 14.5 ± 5.0 weeks). Waiting time for OA knee patients to receive GOPC PT service is drastically decreased to 4.7 ± 1.3 weeks. Attendance rate of subsequent PT FU sessions are improved; that is, 72% versus 75%. Number of the PT FU sessions is decreased (3 versus 2 sessions). Every patient completes a KAP survey after finishing conjoint OA knee class. This is used to evaluate their knowledge of self-management skills, attitudes towards joint care advice and practices of behavioral change. Consistently high scores are secured (93%; 99% and 99% respectively). A patient satisfaction survey is done and the overall patient satisfaction scores 5.33 out of 6. Mean of patient satisfaction in three components; namely program content, organization and patient engagement, are 5.35; 5.26 and 5.38 respectively. Results imply that there are consistently high patient satisfactions on conjoint OA knee class.

Conclusion

To conclude, not only this new OA knee management model shortens waiting time for patients receiving GOPC PT services; but providing an interactive patient-physiotherapist-doctor platform for patients' best understanding and self-management of chronic degenerative disease. Good clinical outcomes also demonstrate that this service model is efficient and cost effective in primary care setting.

Service Enhancement Presentations

F1.7 Better Manage Growing Demands 10:45 Room 421

Enhanced Home and Community Care Service Reduces Hospital Utilisation and Promotes Aging in Place among Frail Elderly in Hong Kong

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Introduction

In face of the aging population, there is an increasing need to shift the healthcare provision from hospital to community care service. An Enhanced Home and Community Care Service (EHCCS) has been established by the Hong Kong Government since 2001. Nursing outreaching team of WCHH has been collaborating with non-governmental organisations to provide multidisciplinary and community-based care to elderly living in the community.

Objectives

To evaluate the effectiveness of EHCCS on the reduction of hospital utilisation among frail elderly so as to promote aging in place.

Methodology

A quasi-experimental study was carried out to compare the hospital utilisation of frail elderly one year before and after enrolled into the programme. Home visits and on-site nursing care by registered nurses of WCHH were provided regularly with other community-based services.
Primary outcomes are: rate of emergency department attendances (EDA), rate of unplanned hospital admission (UHA) and the hospital length of stay (LOS)

Rate of private nursing home placement among all service users over the one-year period was analysed. Data were extracted from hospital records and analysed by a paired-samples T-test.

Results

Between February 2016 and January 2017, 90 service users were eligible. Result shows a reduction in EDA (20%), UHA (6%) and a significant reduction in LOS (66%) ($p<0.01$).
Users have been receiving the service for an average of 26 months. Up to 95% could remain in the community, while only 2.5% were admitted to private nursing homes mainly due to sudden unavailability of primary caregivers.

The EHCCS with nursing support is effective in reducing hospital utilisation and need of inpatient care. This could possibly reduce healthcare expenditure in the long run.
Despite the fact that frail elderly do need acute hospital admissions, the combination of family and familiar environment along with skilled nursing, professional healthcare, and individualised social services can allow elderly to live with frailty securely in their own home. Carer support can enhance family cohesion and assist carers in overcoming barriers to caring the elderly. Further improvement and strengthening of the collaboration and communication between health and social care sectors would better optimise delivery of care.

F2.1 **Staff Engagement and Empowerment** **13:15 Room 421**

Upstream Checklist before Sign-in of Surgical Safety Checklist Prevents Wrong Patient, Wrong Side and Wrong Site Surgery

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Introduction

The World Health Organization (WHO) Surgical Safety Checklist has been the standard practice in the operating rooms. In prevention of wrong patient, wrong side and wrong site surgery, surgical pause (time-out) serves as the final and single check before the start of surgery. However, many of the errors or irregularities originated in "upstream" steps, i.e. documentation for consent or operation list, and making of the mark. If many of these upstream errors or irregularities are rectified before arrival to the operation theatre, the level of safety would be increased.

Objectives

To investigate the frequency of errors or irregularities occurs in upstream processes and how an "upstream checklist" before sign-in of Surgical Safety Checklist would prevent wrong patient, wrong side and wrong site surgery.

Methodology

Surgical Safety Checklist compliance audit was a prospective audit exercise of the institute under the stipulation of the procedure safety subcommittee of the Quality and Safety committee. The audit was reviewed every six months since its establishment in 2011. We would review the audit from 1 January 2012 to 31 December 2016. Up-stream non-compliance items were classified into incomplete/inaccurate consent, inaccurate marking, incoherence in consent and operation list, wrong laterality in both consent and operation list, and incomplete checklist were the upstream events. The severity of the event was referred to hazard analysis of the Failure Mode and Effects Analysis (FMEA) performed at the design of the checklist.

Results

We retrospectively reviewed the Surgical Safety Checklist compliance audit from 1 January 2012 to 31 December 2016. There were 128 events among a total of 54,553 operations (0.23%). There were 22 events of checklist non-compliance. After excluding the checklist non-compliance, there were 106 up-stream events (0.194%). There were 36 (0.066%) events of incomplete/inaccurate consent and 14 (0.026%) events of inaccurate marking. Also there were 38 (0.07%) events of incoherence in consent and operation list. There were 18 major risk events of wrong laterality in both consent and operation list (0.033%). There was no occurrence of wrong side and wrong site surgery during the study period.

Most of the errors or irregularities occurred in the up-stream processes of documentation and marking. Our results showed 86% (106/128) of the irregularities can be rectified by using an upstream checklist (before sign-in). These would have been left undetected even with the use of WHO Surgical Safety Checklist because all the subsequent downstream checks were based on these documentations (consent and operation list). Upstream checklist before sign-in of Surgical Safety Checklist would rectify many of these errors or irregularities. This added redundancy would prevent wrong patient, wrong side and wrong site surgery.

Service Enhancement Presentations

F2.2 Staff Engagement and Empowerment 13:15 Room 421

Enhancing Nursing Roles in Western and Chinese Medicine under Integrated Chinese-Western Medicine Pilot Programme (Phase II) – Cancer Palliative Care

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Introduction

The first Chinese Medicine Hospital in Hong Kong will be set up. The hospital shall provide Integrated Chinese-Western Medicine (ICWM) services that many areas and parts need to be examined. In the past three years, 270 patients had been receiving ICWM services in Tuen Mun Hospital. For gaining further experience in Phase II, the ICWM team empowered nurses to act as administrators, assessors and referrers of Chinese-Western Medicine to acquire practical experience, and fulfill the needs and requirements of Hong Kong Chinese Medicine Hospital.

Objectives

To develop nurses' competencies in administration of both Chinese and Western Medicines; (2) to gain practical experience of management of Chinese and Western Medicines for Hong Kong Chinese Medicine Hospital; and (3) to reduce the workloads of both the Western and Chinese Medicine Practitioners

Methodology

In 2016, over 1,900 admissions were recorded in the ICWM service area, but not all patients were eligible to receive both Western and Chinese Medicine. If a patient was interested in Chinese Medicine (CM), nurses should provide information and have the essential competencies in collaborating with other related professional teams. An ICWM screening toolkit was developed based on the risk of herb-drug interactions, laboratory results of renal liver function and the international normalised ratio (INR), financial status and acceptance of CM. Nurses were empowered to perform screening assessments in advance, before Medical Officers referring cases to Chinese Medicine Practitioners or further blood tests for the patients. To further improve the effectiveness of work practices, nurses were allowed to take preventive and corrective actions. To minimise the risks of herb-drug interactions and adverse effects, while ensuring patients that they could take all medications within the timeframe, nurses were authorised to reschedule the administration of prescribed CMs and WMs. One of the major barriers of ICWM was lacking shared education and on-job training, so nurses were sent to study relevant CM certificate courses and acquired basic knowledge directly from on-site CMPs.

Results

Terminal stage cancer patients needed to take multiple medications. The greater the numbers of drugs they took, the more potential risks would be resulted. Neither medication incident nor patient complaint was reported. The success rate of referrals increased from 44% to 86%. From the period of screening to start of ICWM services was only 1.02 days. Nurses acted as a linkage between Western and Chinese Medicine Practitioners and reduced the workload of them.

F2.3 Staff Engagement and Empowerment 13:15 Room 421

Post-operative Care Service in Tseung Kwan O Hospital – One Stop Nurse-Led Discharge Programme

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Introduction

Day Surgery is widely practiced in Hong Kong. The expansion of day surgery service in Tseung Kwan O Hospital (TKOH) has a consequential rise in the postoperative care workload. To increase the service quality and efficiency, a nurse-led discharge programme of phase II recovery in the Ambulatory Surgery Centre (ASC) was first piloted in 2014. The safe practice was extended to phase I recovery - Post-anaesthesia Care Unit (PACU) in 2016. The two phases combined one-stop Nurse-led Discharge (NLD) programme was implemented to optimise post-operative care service in Tseung Kwan O Hospital (TKOH).

The NLD is a protocol driven guideline with standardised discharge criteria. The modified Post-Anaesthesia Discharge Scoring System (MPADSS) was adopted to determine patients' readiness for discharge from PACU. This greatly improves the efficiency in PACU and ASC while maintaining patient safety and satisfaction.

Objectives

(1) To facilitate timely discharge of post-operative patients; (2) to ensure patient's safety by providing a set of objective, reliable, and well-defined criteria for nursing assessment and patient discharge; and (3) to ensure a high quality of care and nursing staff satisfaction through effective inter-disciplinary collaboration.

Methodology

The Guidelines of NLD programme for PACU and ASC was designed and launched in TKOH in April 2016. Task groups were formed and workflow and protocols were developed, after extensive consultation with the Chief of Service (COS), all anaesthetists and the senior nurses within the department. 18 operating theatre nurses and nine ASC nurses were recruited, with intensive training being provided. All staff are required to complete the competency test after training. To evaluate the effectiveness of NLD services, relevant data was retrieved from the Anaesthesia Clinical Information System (ACIS). Meanwhile, telephone follow up service was provided by ASC staff on post-operative day one.
Finally, satisfaction survey of nurses was conducted in the form of questionnaires (Likert scale).

Result

(Period form 1 January 2017 to 31 Dec 2017)

(1) Improved Efficiency

Phase I and II Recovery (PACU and ASC)

In total 5,719 patients were admitted Phase I Recovery while 50.2% were referred for NLD. 5% did not fulfil the discharge criteria and were referred back to anesthetists for re-assessment and discharge. When compare with the discharge time before the implementation of NLD, average length of stay was reduced by 17%. Meanwhile, 1458 day surgery patients entered into Phase II Recovery. 97% was discharged by nurses successfully. 834 patients participated in the combined phases (Phase I to Phase II). 97.5% were successfully discharged by nurses and the remaining patients were discharged by anesthetists. Only 0.04% of the patients attended A&E after discharge due to postoperative-op surgical complications. Nevertheless, no patient discharged by nurses was re-admitted.

(2) Patient's Safety and Nurse Satisfaction Ensured

Zero incident or complication has been reported from NLD. All patients are satisfied with the discharge process and willing to seek assistance through the telephone follow up services. 92% of nurses feel empowered and can manage patient flow effectively. All of them agreed that they are able to carry out the NLD and are satisfied with the programme.

Conclusion

The one-stop nurse-led discharge services in phase I and phase II recovery have satisfactorily shortened the duration of recovery room stay and improved the efficiency. It can facilitate timely discharge, maintain patient safety and quality of care, and enhance nursing autonomy.

Service Enhancement Presentations

F2.4 Staff Engagement and Empowerment 13:15 Room 421

Promotion of Evidence Based Practice: Surgical Nursing Journal Club

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Introduction

Healthcare practice is increasingly focused on delivering care that is based on empirical evidence or research findings published in the literature. As the primary providers of patient care services, nurses develop guidelines, policies, and procedures in their individual practice settings based on research evidence. Numerous literatures have suggested that staff nurses have difficulty in interpreting research articles because of the complexity, academic, and statistical language. As a result, implementation of a journal club is one approach to help nurses integrate research findings into clinical practice and provide evidence based care. In January 2016, the Surgical Nursing Journal Club was established which aims to both educating nurses and improving clinical practice.

Objectives

(1) To consolidate the evidence based nursing (EBN) and surgical nursing care through journal sharing and literature appraisal; (2) to disseminate learning outcomes by sharing journal and literature appraisal results with other readers.

Methodology

The journal club held once every quarter and all nursing staff of surgical department were encouraged to join. Senior nursing staffs who had acquired basic EBN knowledge such as completion of EBN training/workshop were recruited as facilitators. Each surgical ward takes turns to assign a presenter to prepare journal article related to surgical nursing practice for pre-reading and present in the journal club under the guidance of facilitator. Facilitators gave comments, provided guidance to facilitate discussions and compilation of the final appraisal report. The appraisal report had been posted up in our department training website for dissemination as critical appraisal topics (CATs).

Results

From January 2016 to December 2017, seven journal clubs had been held. A total of 143 nursing staff attended the journal club and completed the questionnaire. Majority of them agreed that the lectures have achieved their stated objectives (Strongly agree: 16.3%, Agree: 78.6%) and the contents are adequate (Strongly agree: 15.5%, Agree: 81.9%). Also, most of them agreed that the speakers have enhanced their learning in the lecture (Strongly Agree: 19.6%, Agree: 72.9%) and duration of the lecture is appropriate (Strongly Agree: 9.8%, Agree: 85.2%). Most importantly, the participants agreed that the journal club is useful. (Strongly Agree: 20.4%, Agree: 70.4%). Concerning the overall satisfaction, most of the participants appreciated the venue, time and staff organising the journal club (Strongly Agree: 16.3%, Agree: 77.8%). 97.37% of them would like to join the activity again and were willing to recommend to other colleagues.

Conclusion

In conclusion, the feedbacks from participants provided solid evidence in supporting the journal club. Establish of journal club is a kind of impetus to improve our nursing staff's ability to critically evaluate published research; encourage them how to make presentation; promote evidence based practice; familiarise nurses with research; have impact on changes in nursing practice and indicate the multi-roles of surgical nurses in delivery of professional performance in both clinical care and academic advancement. Although day-to-day working environment is challenging, continuous learning opportunities should always be provided for enriching staff competence, and confidence under sharing and learning which ultimately benefit patient with quality and safety.

F2.5 **Staff Engagement and Empowerment** **13:15 Room 421**

Pioneer Simulation-based Crew Resources Management (CRM) Training in Hong Kong: A Retrospective Study to Evaluate the Impact of Locally Adopted Simulation-based CRM Training on Patient Safety Culture among Operating Theatre (OT) Personnel under New Territories West Cluster

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Introduction

Crew Resources Management (CRM) promotes safety and team efficiency through optimal use of all available resources. It uses a multidisciplinary learning experience to improve ad hoc teams in a goal to enhance patient safety and reduce medical errors. Since 2011, Tuen Mun Hospital (TMH) commenced CRM training for participants from different specialties.

Objectives

To investigate the impact of locally adopted CRM simulation based training on perception and knowledge about CRM among general staff and staff working in operating theatre (OT).

Methodology

All participants who participated in CRM course from May 2013 to September 2015 in TMH were included. A 32-item web-based questionnaire was administered before and after the workshop at one-month and one-year interval to assess the changes in their perception to work situation, CRM competency and knowledge. Upon completion of the workshop, another 12-item paper-based questionnaire was also administered to assess their reaction to the course. Descriptive data analysis and statistical tests including the McNemar test and Wilcoxon signed rank test was used to compare the pre- and post-course changes.

Results

712 participants joined 45 CRM workshops, 165 of them were OT staff. 95% of participants completed the 12-item questionnaire. The response rate of 32-item questionnaire was around 80% for one-month post-course questionnaire and 20% for one-year post-course questionnaire.

The 12-item questionnaire shows that majority of respondents agreed that the CRM training is useful and relevant to their daily practice. As for the 32-item questionnaire, all participants showed significant improvements in perception to work situation, CRM knowledge and competence one month after CRM. However these changes, especially for OT staff, became less obvious or disappeared one year after.

According to Kirkpatrick principle of training evaluation, our study showed that the CRM course is associated with satisfactory reaction (level one) and improvement in attitude (level two) towards patient safety among both general and OT participants. However, the effect may be short-lived and less obvious among OT staff. Future developments include regular refresher courses or OT-specific workshops for OT staff.

Service Enhancement Presentations

F2.6 Staff Engagement and Empowerment 13:15 Room 421

Enhanced Breast Cancer Postoperative Discharge Programme: Reducing Unplanned Readmission and Increasing Staff and Patient Satisfaction

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Introduction

A clinical pathway for breast cancer operation has been established since 2013, aiming to shorten hospital stay and provide holistic post-operative care. However, in actual context, an increasing trend of unplanned readmission has been seen. In order to improve effective outcome, an Enhanced Breast Cancer Postoperative Discharge Programme was developed in June 2016. This programme mainly based on a clear clinical guideline to classify patients into different categories according to their needs and severity. It also includes a training workshop to ward nurses and community nurses, and educational talk as well as reminder cards are given to patients for enhancing their empowerment in health knowledge and self-caring techniques in unexpected conditions. Lastly, a telephone hotline is set up with connections to the surgical ward during weekends so that patients and community nurses can seek support when necessary.

Objectives

(1) To reduce unplanned readmission and Accident and Emergency Department (AED) attendance; (2) to shorten length of stay (LOS); and (3) to increase satisfaction of staff and patient.

Methodology

The programme was retrospectively evaluated to compare two periods under pre-and-post study design (Pre-programme: 1 July 2015 – 30 June 2016 vs Post-programme: 1 July 2016 – 30 June 2017). The outcomes were measured in terms of unplanned readmission, AED attendance and LOS after operation. A self-administered questionnaire with a four-point Likert scale was used to explore the satisfaction of patients and health professionals.

Results

The unplanned readmission is reduced from 4.4% (8/182) to 1.5% (3/200). AED attendance is reduced from 6.6% (8/182) to 3% (6/200). LOS was shortened from 2.35 days to 1.62 days (p-value <0.006).

The overall satisfaction (mean, Max 4) of patients (n=93) was increased from 3.367 to 3.582. The satisfaction of doctors (n=4) was increased from 2.1 to 3.9, the satisfaction from breast nurses (n=2) was increased from 2.3 to 3.4, the satisfaction of ward nurses (n=20) was increased from 2.29 to 3.15 and the satisfaction of community nurses (n=75) was increased from 2.81 to 3.18.

LOS, unplanned readmission and AED attendance are greatly improved after the programme implemented. The programme could provide clear guidance to our professional staff and holistic care to patients.

F2.7 **Staff Engagement and Empowerment** **13:15 Room 421**

Wound Management Enhancement in Kowloon Central Cluster General Outpatient Clinics

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Introduction

Wound care is one of the core nursing services in General Outpatient Clinics (GOPCs) of Hospital Authority (HA). There was over 70,000 registration of general outpatient dressing attendance in 2017. In order to cope with the huge demand, ensure service quality and safety, improvement of staff competence on wound care service would be essential. This project aims to provide a series of improvement strategies to enhance wound care quality and documentation in GOPCs of Kowloon Central Cluster (KCC).

Besides, service alignment and professional development in wound care in all KCC GOPCs after re-clustering would be paramount.

Objectives

(1) To enhance and refresh professional knowledge on wound assessment; (2) to standardise wound documentation in KCC GOPCs; (3) to ensure continuity of care for patients; and(4) to improve quality of wound care service.

Methodology

(1) Professional training
- Organise In-house wound care training to enhance nurses' knowledge and competences in wound management.
- Organise wound case sharing sessions quarterly to enhance staff knowledge and competences in wound care service.

(2) Practice alignment
- Standardise the documentation record for wound assessment and dressing documentation.
- Perform staff survey on the compliance of wound documentation record.

(3) Quality control
- Conduct wound care audit for quality assurance. Provide on-site wound care coaching to new nursing staff to main service quality and knowledge transfer.

(4) Service development
- Arrange or sponsor nurses to attend local wound care training courses or seminars to equip our nursing staff and enrich their knowledge
- Join the SAG PHC wound workgroup for the wound research among seven clusters.

Results

(1) Two in-house wound care service talks for KCC GOPCs staff were organised with 2 CNE points credit.A total of 31 nurses showed enrichment in wound care knowledge by the result of pre- and post-test and the seminar was useful for managing different wound type. (2) Two wound case sharing seminars were organised to provide platform for sharing of evidence based practice and good practice. (3) Wound assessment and documentation was standardised. (4) Wound audit among all KCC GOPCs in November 2017 was conducted. Overall compliance rate was 99.6% whereas the compliance rate in the seven critical items was 100%. (5) Wound chop for wound care procedures was standardised for removal of stitches or staples and wound packing to enhance communication and patient safety. (6) Three nurses attended the KCC enhancement in wound in 2017 and another three nurses attended the HKEC wound symposium. (7) Participated in the SAG PHC wound research for venous leg ulcers.

Conclusion

The project would be as a milestone for wound assessment and documentation templates in CMS in KCC GOPCs. Most importantly, it empowers our team to provide evidence based practice and quality care to our clients.

Service Enhancement Presentations

F3.1 Clinical Safety and Quality Services I 14:30 Room 421

Working towards Transfusion-free Total Knee Replacement Surgery through Patient Blood Management Programme

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Introduction

Total knee arthroplasty (TKA) is often resulted in high allogenic blood transfusions rate (ABT >30%). ABT are not without risks. ABT in TKA was showed to result in prolonged hospitalisation and increased patient morbidity and mortality. Furthermore, blood is a scarce resource, and therefore it should be used only if necessary. Patient Blood Management (PBM) is a timely application of evidence based concepts designed to maintain hemoglobin concentration, optimise hemostasis and minimise blood loss. With the aim of improving clinical outcome, PBM after TKA was adopted in our institution.

ObjectiveTo review the effectiveness before and after the implementation of PBM in our institution.

Methodology

Strategies in PBM, included modern anaesthetic and surgical techniques, and the use of anti-fibrinolytic in decreasing blood loss, restrictive transfusion and single-unit blood transfusion policies, identification and optimisation of preoperative anaemia were gradually implemented in our institution from 2014 to 2017. It was a case controlled study. The control group consisted of patients with TKA done in our institution in 2013 (before the implementation of PBM), whereas the case group consisted of patients with TKA done in our institution in 2017 (after the full implementation of PBM). Patient's demographics, preoperative haemoglobin level and the average annual ABT rate were compared between both groups. One of the concerns in PBM was the increase in medical complications after operation in anaemic patients, namely cerebrovascular accident and ischaemic heart disease. Therefore, the incidences of these complications and length of stay were compared. All the data were collected from CDARS or local joint registry database. The result was taken as significant if $p<0.05$.

Results

301 patients and 263 patients had primary TKA done in our institution in 2013 and 2017 respectively. The case and control groups were comparable in patients demographics and preoperative haemoglobin level ($p>0.05$). The average ABT rate has statistically significant decrease after the implementation of PBM (32.9% in 2013 Vs 4.1% in 2017, $p<0.05$). There were no patients complicated with the medical complications in both groups.

PBM is effective in reducing ABT rate in our institution. There was no associated increase in medical complications. To reduce unnecessary ABT and its potential complications, PBM needs to be considered in current surgical practice.

F3.2 **Clinical Safety and Quality Services I** **14:30 Room 421**

Maintenance of Normothermia during Surgery

Kwok V[1], Leung H[2], Fu MF[2], Mao KF[2], Chim TL[2], Ng YY[2], Yip WP[2], Wong LM[2]
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Introduction

Inadvertent perioperative hypothermia is a common surgical complication and is defined as core body temperature below 36°C. Hypothermia may increaseinfections, bleeding, the need for transfusion and cardiac complication. It is estimated that 70-90% of patients will experience hypothermia during the first hour of operation (Bayter-Marn, Rubio, Valedn, Macas, 2017). It is because anaesthesia impairs central thermoregulation, allowing re-distribution of body heat. In the Operating Theatre of Pok Oi Hospital, there was 38.8% hypothermia rate post-operatively from October 2015 to March 2016. High risk cases include patients under regional anaesthesia with short operation time and there is no temperature monitoring during surgery; urological surgery with continuous irrigation during surgery and old age patients undergoing hip surgery. Hence, a project team was established to identify the reasons of high hypothermia rate, formulate the improvement task and evaluate the outcome accordingly.

Objectives

(1) To deliver safe and quality care to patients who undergo general /regional anaesthesia by prevention of hypothermia; (2) to review the causes of these hypothermia cases and check if current alternatives preventing hypothermia are effective; (3) to increase staff awareness about the importance of maintenance of normothermia perioperatively; and (4) to evaluate the project outcome.

Methodology

A series of improvement tasks were formulated. Patients' temperature is checked upon arrival to operation theatre; a warm blanket is provided to all patients while waiting for operation in induction room; active pre-warming is applied to patients if their on-call temperature is below 36°C or requested by anaesthetists; theatre temperature is set between 20°C - 22°C to reduce heat loss by convection and radiation; thermometers are available inside theatre to facilitate temperature monitoring of regional anaesthesia.

One of the main practical changes is to start active warming of patients before induction. Then patient's body is refrained from exposure to environment during the first 5-10 minutes of anaesthesia induction. It is used to prevent a patient's body temperature from dropping sharply during the first hour of operation. Staff was educated about the new measurement. The hypothermia rate is then evaluated periodically.

Results

Hypothermia rate is reduced sharply from 38.8% to 2.85% from March 2016 to September 2017.

The programme can enhance awareness and knowledge about hypothermia management of staff. The measurements can improve effectiveness, efficiency of nursing care and ensure early detection of high risk cases of hypothermia during surgery. Proper thermal management may reduce complications and improve outcome in high-risk surgical patients.

Service Enhancement Presentations

F3.3 Clinical Safety and Quality Services I 14:30 Room 421

Fostering Patient's Need Outside Hospital – The Extended Breast Care Nurse Role

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Introduction

There are many health issues related to breast patients. These issues can detour patients attending emergency department as well as following up with patient care. If the function of integrated nurse clinic is further enhanced to take care of patients' other problems, theoretically it can reduce the rate of unnecessary admission. A new service is developed to look after patients' health needs outside hospital including psychological support to reduce anxiety related to the disease, and caring of daily physical problem. If there are problems unresolved, Bresat Care Nurse (BCN) can refer and arrange patients to follow up early in Specialist Outpatient Clinic.

Objectives

(1) To reduce unplanned hospitalisation; (2) to provide patients with timely access to BCN; (3) to educate and correct uncertain health issues; and (4) to improve patients' satisfaction of care

Methodology

A designated site in integrated nurse clinic serves this specialty patient group. The assigned primary nurse with name card and contact number is given to patient in the stage of diagnosis. Patient enquiry is allowed to walk in or give call to her primary BCN for her health concern. A brief memo record is designed for documentation:

(1) The duration used for enquiry

(2) The major concerns and problems

(3) The outcome of this nursing service

Results

From January 2017 to December 2017, over 700 enquiries were received. Nearly 90% are from phone consultations. On average, the BCN used 7.39 minutes for every enquiry and nearly 90% enquiries would settle within 10 minutes. The results indicated that 90% patients were breast cancer patients and the majority of problems related to pre-operative psychological issues and post-operative early rehabilitation concerns. The results also showed that around 20% of the patients required earlier follow up in integrated nurse clinic but no one needed for admission.

Nowadays, addressing the physical needs of a patient is not enough and the care delivery must expand to personalised care and encompass patients' psycho-social needs. This is patient initiative service. The results highlighted that competent and qualified BCNs are a good resource person to manage patients' enquiries, provide psychological care and patient education

F3.4 **Clinical Safety and Quality Services I** **14:30 Room 421**

Reduction of Allogeneic Blood Transfusions in Cardiac Surgery by Lowering Cardiopulmonary Bypass Prime Volume

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Introduction

Despite recent advances in blood conservation techniques, cardiac surgeries have the highest demand for blood transfusion in most medical centres. A certain degree of haemodilution is inevitable with the current use of crystalloid priming for cardiopulmonary bypass (CPB) circuit. Haemodilution is essential in reducing shear stress and promoting organ perfusion. The magnitude of haemodilution depends on the volume of crystalloid solution used for priming, and the patient's baseline blood volume and haematocrit (HCT). In daily practice, the on-pump HCT is kept optimally between 24-30%.

Objectives

(1) To minimise allogeneic blood transfusion for small size adult in priming and during CPB; and (2) To maintain adequate organ perfusion during CPB, i.e. HCT kept between 24-30%.

Methodology

A retrospective review was conducted to evaluate the impact of the lower prime volume on clinical outcome and allogeneic blood transfusion. Since mid-2016 to 2017, a less priming volume oxygenator with integrated arterial filter was used for 285 small size adult body surface area (BSA) < 1.8m2 (LP group), compared with the convention group of 316 patients from mid-2015 to mid-2016 with similar BSA (CP group). The total priming volume of the CPB circuit was reduced from 1400 ml to 1000 ml crystalloid.

Results

There were no significant differences between both groups with respect to baseline characteristics, BSA, type and urgency of the operation, perfusion technique and haemotologic profiles. However, allogeneic blood transfusion requirement was significantly lower in the LP group versus CP group: percentage of patients required blood transfusion priming, 18% (n=52) versus 25% (n=79) (p= 0.045). The percentage of patients required blood transfusion on CPB, 44%(n=127) versus 47%(n=150) (p=0.475) were similar. Off bypass HCT for both groups were similar 24-30%. Blood transfusion requirement before leaving operation room were similar in both groups. Chest drainage output, first 24 hour HCT and discharge HCT were similar in both groups too. The small size adult patient is at higher risk of allogeneic blood transfusion when undergoing CPB. Lowering cardiopulmonary bypass prime volume resulted in a significant decrease in the use of allogeneic blood product. Various factors also indicate blood transfusion during CPB: patients conditions, baseline/on-pump HCT, types and length of the cardiac surgeries. Further studies exploring the haemodilution affecting the requirement of blood transfusion during on CPB are certainly recommended. In conclusion, the Prince of Wales Hospital is encouraging its surgical teams to adopt best blood management practices in an effort to reduce allogeneic blood transfusions effectively.

Service Enhancement Presentations

F3.5 Clinical Safety and Quality Services I 14:30 Room 421

Improvement in Fall Assessment and Prevention among Nursing Staff after Refresher Training in Department of Geriatrics

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Introduction

The Multidisciplinary Post Fall Review Group of the Department of Geriatrics was set up in March 2015 to review every in-patient fall incident happening in Geriatric wards prospectively, and make suggestions for secondary fall prevention for the rest of the individual's hospital stay and after discharge. The post-fall review of in-patient fall incidents during first and second quarters 2017 revealed some discrepancies between the Morse Fall Scale rating and the patient's condition as seen in the documentation. Accurate assessment is the first and the most important step in prevention of fall and appropriate rating in fall risk assessment tool could help to provide proper targeted preventive measures to prevent falls. Thus, a refresher training on fall prevention and management is indicated.

Objectives

To refresh nursing staff's concept and knowledge of Morse Fall Scale (MFS) to promote precise fall assessment and provide appropriate preventive measures.

Methodology

An ad-hoc team for fall prevention enhancement project was set up in June 2017. The records of Post Fall Review Panel Checklist of recent fall cases were reviewed, and a surprise audit on fall prevention documentation was performed in all geriatric wards and Geriatric Day Hospital (GDH) in July 2017. Three items in Morse Fall Scales were identified as high variances during fall assessment: (1) ambulatory aid, (2) gait and (3) mental status. Data was analysed for preparation of the content of training. Three identical scenario-based training workshops called "Smart Tips on Morse Fall Scale" were launched during early August 2017 for all nursing staff in the Department of Geriatrics, with pre- and post-quiz before and after the workshop respectively. Post-workshop surprise audit was performed in October 2017 in all geriatric wards and GDH. All data was analysed to explore the effectiveness of training and performance of staff on fall prevention and assessment following the workshop.

Results

(1) A total of 45 participants in three workshops. Post-workshops quiz showed better mean scores (Post=3.84, Pre=3.58). (2) Return rate of staff evaluation after the workshops reached 98%. More than 95% of the nursing staff was satisfied with the content of the workshops (overall mean score: 5.23/6). (3) Post-compliance audit showed marked improvement in accuracy and compliance in all three categories of MFS: ambulatory aid (80% ->96.7%); gait (66.7%->100%); and mental status (96.7%->100%). (4) The overall compliance in documentation significantly increased from 89.34% to 99% ($Z=4.745$; $p<.001$, 2-tailed).

Conclusion

The Multi-disciplinary Post-fall Review Group creates a platform to review practical issues regarding the current fall prevention and management for further improvement. Scenario-based workshops not only motivate staff's interest during the course of training with positive feedback, but also improve the accuracy and appropriateness in fall assessment and management.

F3.6 **Clinical Safety and Quality Services I** 14:30 Room 421

Green Hospital – Paperless Audit in Department of Surgery, United Christian Hospital

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Introduction

Nursing audit is a common assessment of the quality of nursing care and is used to uphold the nursing standards in healthcare system. More than 20 different audits were performed in the Department of Surgery of the United Christian Hospital every year. Indeed, we use many papers during audit activities. Moreover, there is a storage issue as limited space in ward does not quite allow these audit forms to be kept for three years in our department. Furthermore, some scenarios like incomprehensive record of audit form and time consuming for data input are sometimes encountered.

Objectives

(1) To develop an electronic e-audit form; and (2) to reduce the number of incomprehensive record of audit form.

Methodology

A pilot project developing an electronic e-audit form was conducted from September to December of 2017 in the Department of Surgery. By using the "Survey" function in the Share Point provided by Hospital Authority, we converted the original audit form to e-audit form and uploaded to the Share Point. Different permission levels in the Share Point was set to secure the audit data. Also, we utilise a function of "require" to prevent missing data.

An introduction workshop was provided to the auditors in August. Moreover, the auditors performed the re-demonstration to evaluate their understanding in using the e-audit forms. The audit was carried out by using different electronic devices such as i-pad, notebook and portable computer on wheel (COW).

Results

16 e-audit forms were developed and implemented in four surgical wards and Breast Centre during the pilot period. 462 e-audit forms were completed. As a result, more than 450 pieces of paper were saved as well as storage place. Once the auditors completed and saved the forms, no data could be amended by setting security permission level.

The graphical summary of responses and results could be generated by computer itself for analysis. Different auditors could view and analyse depending on different permission levels. All auditors were satisfied with such change. They commented that it is convenient, easy to use and time saving.

Conclusion

In the blooming technology world, it is a trend to better utilise electronic system to streamline workflows in the healthcare system. E-audit forms are convenient and easy to use, paperless, and time saving.

Service Enhancement Presentations

F3.7 Clinical Safety and Quality Services I 14:30 Room 421

Cost Effectiveness Analysis of Cartilage Repair Surgery for Treatment of Cartilage Defects of the Knee in Hong Kong

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Introduction

Damaged knee articular cartilage results in pain, functional impairment and mechanical symptoms; they also contribute to early onset of osteoarthritis. Microfracture (MFX) procedure has been widely employed to treat this condition. In recent years, regenerative techniques including matrix-induced autologous chondrocyte implantation (MACI) and autologous matrix-induced chondrogenesis (AMIC) have been introduced. In Hong Kong, there is no previous analysis for the costs and effectiveness of these treatments.

Objectives

To estimate the efficacy and cost effectiveness of such cartilage repair procedures in treating symptomatic articular cartilage defects of the knee in the public health service of Hong Kong.

Methodology

Patients receiving MFX, MACI or AMIC at the Queen Elizabeth Hospital between 2001 and 2015 were analysed in this cross-sectional study. Direct medical costs were calculated according to the Hospital Authority's published rates and vendor price lists corrected to 2015 Hong Kong Dollars. Clinical outcome was reported as knee-related functional outcome scores (KOOS and WOMAC) and general health status (SF-12). Results were expressed in gain in functional scores (pre-op vs 24 months post-op), and Quality-Adjusted Life-Years (QALYs), with utility scores derived from the SF-12 questionnaire responses.

Results

All three procedures showed clinical effectiveness in all 60 patients, relieving symptoms and restoring function. The functional outcome scores (both the KOOS and WOMAC) were improved at 24th month. Subgroup analysis revealed that improvement >30% was achieved in both the AMIC and MACI groups, but not the MFX group. QALYs also showed enhancement at 24th month after surgery in all three groups. The estimated cost per additional QALYs was also calculated, and the three procedures seemed cost effective using both the UK and US thresholds.

Our study found that minimal clinically important difference (MCID) was achieved in both AMIC and MACI but not MFX. The estimated cost per QALY and the relative incremental-cost-effectiveness ratio (ICER) for AMIC is more favourable than MACI (according to the UK and US standard). AMIC was shown to be more cost effective than MACI in this analysis.

F4.1 **Clinical Safety and Quality Services II** **16:15 Room 421**

Minimal Hip Stability Precautions are Equally Good and Safe to Conventional Precautions after Total Hip Replacement

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Introduction

Advancement in surgical techniques and more common use of larger diameter femoral heads allowed minimal hip stability precautions with less restriction in activities of daily living (ADL). We studied the outcomes from safe and health-related quality of life perspectives in a prospective cohort for patients with primary and revision total hip replacement (THR).

Objectives

Minimal precautions (MP) would not increase the rate of dislocation nor deteriorate quality of life compared with conventional precautions (CP) protocol.

Methodology

37 THR patients were recruited from March 2016 to March 2017 at Queen Mary Hospital. They were divided into MP and CP groups according to surgeon decision. CP group received conventional ADL training by occupational therapists (OT). Patients in MP group received ADL training by OT according to MP protocol which allowed leaning forward, cross-leg, squat and some combined movement hip flexion, external rotation, abduction immediately post-operation. At pre-operation, three and 12 months post-operation, patients quality of life (QOL) were assessed by QOL questionnaire EQ5D-5L via interview. EQ5D-5L composed of five questions measuring five dimensions of health: mobility; self-care; usual activities; pain; anxiety/depression in a five-point Likert scale. EQ5D-5L rating transformed into a index score that ranging from 1 (no problem) to -0.281 (extreme problems). EQ5D5L also composed of one question asking on overall health perception, ranging from 0 to 100, 0 (extreme poor) to 100 (very good). On the other hand, rate of dislocation at three and 12 months post operation was collected via phone calls. One-way ANOVA was used to analyse the EQ5D-5L scores and dislocation rate within and between groups difference at different time points.

Results

37 patients (MP=17; CP=20), primary THR in MP:CP (88%:60%). Only one dislocation reported in CP group who was a patient suffered from femoral nerve palsy post operation and fell one month post operation causing dislocation but none dislocation reported in MP group. The index score of both groups at three and 12 months post operation with no significant difference (12 months: MP=0.865; CP=0.829) and also to health perception (12 months: MP=80.4; CP=74.3). However, significant improvement of index score and health perception ($p<.001$) was shown within both groups between pre-operation and three months post-operation. This improvement could sustain in 12 months post operation. In conclusion, minimal hip stability precautions proved to be equally good and safe for THR cases compared with conventional hip precautions.

Service Enhancement Presentations

F4.2 Clinical Safety and Quality Services II 16:15 Room 421

The Application of Evidence Based Bundle Approach to Reduce Surgical Site Infection in Geriatric Hip Fracture Patients – A Single Centre Experience

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Introduction

Surgical site infection (SSI) is the third most commonly reported nosocomial infection, increasing morbidities, mortalities and length of hospital stay. SSI is increasingly seen as a performance indicator of quality of healthcare. In 2010 and 2012, we experienced an unexpectedly high rate of SSI in geriatric hip fracture with hemiarthroplasty operations done.

Objective

Since 2012, we investigated into the causes and developed a bundle approach to reduce SSI.

Methodology

All conservative geriatric hip fracture with hemiarthroplasty from 2008 to third quarter of 2017 were reviewed. Since 2012, pre-operative MRSA screening was implemented. Vancomycin was given as prophylactic antibiotic for positive screening results that were available within three days. Pre-operative skin care by bathing one day before operation or on the operation day with chlorhexidine lotion was taken. Peri-operative procedure included set-up of internal guideline, standardised prophylactic antibiotic administration, continuing education of staff, limitation of traffic in operating room, standardisation of disinfection of surgical site: we have a stringent first stage povidine iodine disinfection, second stage water-proof extremity draping and sterile plastic sheet wrapping of non-surgical region, third stage ChloraPrep (Chlorhexidine gluconate and isopropyl alcohol) and followed by circumferential iodophor impregnated plastic adhesive drape (“Ioban”) covering the hip and thigh region. The surgical wound was dressed with aquacel adhesive tape after wound closure.

Results

A total of 496 hip fracture hemiarthroplasties have been performed over the 10-year period. The mean number of days between admission and operation was seven days, while length of hospital stay was 20 days. All patients involved in the SSIs had multiple comorbidities, with diabetes mellitus and hypertension being most prevalent.

The average yearly SSI from 2008 to 2012 was 3.31% for superficial infection, 3.95% for deep infection and overall infection rate 7.25%. The SSI rate showed significant improvement after bundle approach implementation from 2013 up to third quarter of 2017, 1.95% for superficial infection, 1.60% for deep infection and overall 3.55%. 57.1% of all the SSIs were caused by staphylococcus aureus, followed by Pseudomonas species. 79% of all superficial infection cases were treated with intravenous antibiotic alone according to sensitivity, while 21% required surgical debridement. All deep wound infection cases (12) required removal of implant and surgical debridements.

The bundle approach has shown to achieve an effective and sustained decrease in SSIs for geriatric hip fracture patients.

Hip Pain during Walking and Cognitive Status Early Post-operation Predict Discharge Destination in Men with Hip Fracture: A Prospective Study

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Introduction

Hip fracture is a well-known geriatric fracture that requires hospitalisation. Some elderly demonstrated permanent disability and failed to return to their original residency despite successful surgery and adequate rehabilitation. Early prediction of discharge destination of hip fractured patients would allow healthcare disciplines to have a better discharge planning and communication. Health status, functional status and activity of daily living (ADL) state in pre-fracture phase, post-operative complications, time to surgery and length of hospital stay were shown to be predictors. However, scientific evidence related to the usefulness of variables such as the level of hip pain, cognitive function, self-efficacy of patients on performing exercise for prediction of discharge destination is still limited.

Objectives

To identify potential predictors of returning home at early hospitalisation stage after hip fracture in community-dwelling older men and women.

Methodology

80 community-dwelling older subjects (mean age 84.26.0 years; 32 men), with unilateral hip fracture managed operatively were recruited from the orthopaedic wards of Queen Elizabeth Hospital. All recruited subjects were managed under a standardised integrated multidisciplinary clinical pathway for fragility hip fracture. The following potential predictors were assessed at the second ambulatory training session: (1) level of hip pain during walking by Numeric Pain Rating Scale, (2) mobility function by Elderly Mobility Scale, (3) cognitive status by Mini-mental State Examination, (4) functional status by Modified Barthel Index, and (5) self-efficacy by Self-efficacy for Exercise Scale. Final discharge destination was evaluated via telephone interview at six-week post-operation. Multivariate logistic regression analysis was used for statistical analysis.

Results

In the sixth week, 50% and 69.6% of men and women were able to return to home respectively. After adjusting for age, less hip pain during walking (men: p=0.04, OR=0.47, 95%CI=0.23-0.97; women: p=0.844, OR=0.97, 95%CI=0.69-1.35) and better cognitive status (men: p=0.045, OR=1.43, 95%CI=1.01-2.03; women: p=0.706, OR=1.03, 95%CI=0.89-1.20) at the second ambulatory training session were found to be significant predictors for returning home. None of the other potential predictors assessed were found to be able to predict discharge destination in both men and women (p≥0.182). Pain management early post-operation maybe important to facilitate men with hip fracture to return to home. Early placement arrangement may be required for men with poorer cognitive status to facilitate earlier discharge.

Service Enhancement Presentations

F4.4 Clinical Safety and Quality Services II 16:15 Room 421

Are We Imaging Gently Enough? A Clinical Audit on Paediatric Digital Chest Radiograph Dosages

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Introduction

Radiation protection is an important issue in paediatric radiology, as children are more susceptible to deleterious radiation-induced effect than adult. Digital chest radiography, despite its relatively low radiation dose, is one of the most frequent examinations performed in the paediatric patients. Image enhancement through post processing may mask improper collimation or exposure factors. It is therefore important to ensure radiation dose delivered to our paediatric patients is as low as reasonably achievable through clinical audit.

Objectives

To audit the dosage of digital chest radiography performed in paediatric patients in Tuen Mun Hospital.

Methodology

Phase one audit was performed prospectively from January to March 2017, collecting dose-area products (DAPs) and identifying potential factors leading to excessive radiation dosages. Phase two audit followed in July to September 2017 after changes have been implemented. European diagnostic reference level (EDRL) for paediatric imaging was used as standard as no local DRL is available. All patients from age 0 to 15 years with CXR taken at main department of TMH were included in this audit. The patients were assigned to nominal age group 0, 1, 5, 10 and 15 years. Portable CXR, CXR taken for line/tube placement and whole body radiograph were excluded. Image quality was assessed using European Guidelines on Quality Criteria for Diagnostic Radiographic Images in Paediatrics by two independent paediatric radiologists. Rejection analysis was also performed.

Results

63 and 93 radiographs were assessed in phase one and two audits respectively. Excessive radiation dosages were identified in age groups 0 and 1 in phase one audit. Key contributors to high radiation dose include high rate of anti-scatter grid use, inadequate collimation, and frequent automatic exposure control use in small patients. Standardised paediatric CXR protocol addressing these issues was established after phase one audit. In phase two audit, median doses in all age groups were below EDRL. There was also good adherence to the newly established protocol. All CXRs in phase two audit show acceptable diagnostic quality. Rejection rate was 6.3% in phase one and 5.4% in phase two audit.

F4.5 **Clinical Safety and Quality Services II** **16:15 Room 421**

Intensive Care Unit Outcomes Monitoring and Improvement Programme

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Introduction

Adult intensive care is an integral service for patients with life-threatening critical illnesses. In the past, adult intensive care units (ICUs) in Hong Kong adopted an external model for the performance review. Intensive Care Unit Outcomes Monitoring and Improvement Programme (ICUOMP), commissioned by Co-Ordinating Committee (COC) in Intensive Care, was launched in 2015. Refined risk-adjusted models were created to benchmark the performance of intensive care units in HK.

Objectives

(1) To develop a reliable local contemporary clinical audit related to critically ill patients in Hong Kong ICUs; (2) to measure and strengthen the quality of ICU services; and (3) improve the strategic planning of ICU services.

Methodology

Since 2015, all admissions to the 15 adult ICUs under Hospital Authority have been screened. Some admissions were excluded following internationally accepted criteria. Diagnosis and physiological data within the first 24 hours of admission were collected. Data validity was checked using random sampling by independent ICU specialists since 2016. Mortality and length of stay (LOS) of patients were modelled, by independent academic biostatisticians, with generalised linear mixed model.

Results

Data from 27,844 admissions were collected after exclusion; 12,394 and 12,731 admissions, from 2015 and 2016 respectively, were analysed. The main findings were as follows: (1) There was an annual increase of 4% in ICU admissions. (2) The crude hospital mortality rate was 16.4%. (3) An outlier was identified in the mortality model of 2015. Upon feedback on this information, the unit reviewed their situation and the anomaly was reverted in 2016. (4) Another outlier was identified in the mortality model of 2016. Feedback has been provided and we await the data of 2017. (5) In the post-hoc analysis, ICU performance was proven correlated with off-hour intensivists staffing, the number of doctors in the unit, the total ICU LOS provided per doctor and per nurse. (6) Patient's mortality also showed association with out-of-office-hour ICU discharge. (7) There were significant variations in the length of stay among the ICUs. Exploration of the variation may improve the efficiency of ICU resources.

Conclusion

ICUOMP is an important and effective audit to identify areas of improvement in clinical practice and subsequent patient outcome.

Service Enhancement Presentations

F4.6 Clinical Safety and Quality Services II 16:15 Room 421

Is Prevention of Dehydration in Elderly Patients Who Undergoing Orthopaedics Operation Far Away from Us?

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Introduction

Older people are vulnerable to dehydration due to age-related changes. It is also found that dehydration is significantly associated with the occurrence of postoperative complications related to respiratory, gastrointestinal and hematological. However, there is lack of standardised method assessing the hydration status of elderly patients during perioperative period.

Objectives

(1) To reduce dehydration rate among elderly patients undergoing orthopaedics operation; (2) to facilitate nurses for early identification of dehydrated patients perioperatively; and (3) to prevent postoperative complications associated with dehydration.

Methodology

The programme on "Prevention of Dehydration" in elderly patients undergoing orthopaedics operation was launched since 2015. Patients who aged 65 or above, and admitted to orthopaedics wards for operation were recruited. Patients were screened for risks of dehydration by checking (1) blood urea nitrogen (BUN)/creatinine (Cr) level; (2) clinical signs and symptoms of dehydration. Either BUN/Cr level ≥ 25 or with clinical features of dehydration, patients would be treated as dehydrated and appropriate dehydration preventive measures, such as increasing fluid intake, would be implemented. The progress of hydration status was closely monitored. In order to understand how well nurses comply with implementation of the programme, a staff compliance prospective audit was conducted in September 2017 in a snap shot way. All patients in the programme were included in the audit.

Results

From September 2015 to December 2017, a total of 2,413 patients were recruited and 681 (28.2%) were identified as dehydrated perioperatively. After implementing the dehydration preventive measures to those dehydrated patients, nearly 50% of the patients had improvement in dehydration status. For the audit, 37 cases were reviewed and the overall staff compliance rate was 97.5%.

Discussion

The burden on managing elderly orthopaedics patients is huge. The elderly is vulnerable to dehydration, especially during perioperative stage. The programme not only provides a standardised assessment for early detection of dehydration among patients perioperatively, but also improves their dehydration status. Ultimately, the programme can reduce overall medical burden and enhance patient recovery after operations. Last but not least, staff compliance to the management protocol is one of the key elements for the success of the programme.

Conclusion

We believe what we have done is minor but important, simple but valuable, easy but effective.

F4.7 **Clinical Safety and Quality Services II** **16:15 Room 421**

Clinical Use of DAGDA Score and Pneumonia Prevention Programme

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Introduction

Post-operative pneumonia is significantly related with mortality (P-value <0.01). In 2014, we formulated DAGDA score to predict high risk patients. Pneumonia prevention programme is started.

Objectives

Results of using DAGDA score and pneumonia prevention programme are reviewed and analysed.

Methodology

In 2014, by using SOMIP 2012-2013 database (1742 patients), we identified five (out of 38) significant variables (p-value < 0.05) associated with postoperative pneumonia; including activities of daily living (ADL) dependence, ascites, General Aanaesthesia, pre-operative dyspnea and ASA score >= 3. They are weighed according to their respective proportion (B-value) to form the DAGDA score to predict high risk patients in developing postoperative pneumonia.

Maximum DAGDA score is 18 with area under ROC curve 0.776 (95% CI: 0.716 – 0.837). Sensitivity and specificity of DAGDA score with cut-off point of 8 are 73.6 % and 72.8 % respectively. External validation is examined by using another group of 4,484 patients with similar results achieved.

Since 2/2016, a multidisciplinary team (MDT), including surgeons, respiratory physicians, surgical nursing staffs and physiotherapists, was formed. In May 2016, pneumonia prevention programme was started in one surgical team. High risk patients (DAGDA score >= 8) were identified and preventive measures were applied as follows, including:

(1) warning sign over patients' bed and bed stat

(2) perform CXR and bronchoscopy if needed

(3) early post-operative mobilisation with good pain control

(4) vigorous chest physiotherapy and breathing exercise with incentive spirometer

(5) nursing care, including head-of-bed elevation and sit up at all meal, twice daily oral hygiene swabs

(6) consult respiratory physician

Results

Within 9 May 2017 to 30 November 2017, 435 patients received major/ultra-major operations. Post-operative pneumonia rate was decreased from 3.2% (14/435) to 4.1% (p-value: 0.56)

Besides, there is a statistically significant decrease in the pneumonia-related mortality rate, after adopting the pneumonia prevention programme, only one (over 14 patients) succumbed (7.14%, p-value: 0.048*) when compared with the July 2012 to June 2013 (24/72, 33.3%).

DAGDA score is useful in predicting high-risk patients in developing post-operative pneumonia. A MDT approach in formulating pneumonia preventive measures can significantly prevent postoperative pneumonia-related death.