Research and Innovation Competition

British Association of Physicians of Indian Origin
Annual Conference 2016
Innovating for Sustainable Health Care: International Lessons
19th-20th November 2016 London

British Association of Physicians of India announced the first BAPIO Research & Innovation Competition in collaboration with Royal College of Physicians, Royal College of Paediatrics and Child Health and Doctors Academy.

The Research and Innovation Competition, which aims to promote the exchange of medical and scientific knowledge, enables enthusiastic and inspired medical students and junior doctors to present their work to their peers, either in the form of an oral or a poster presentation. There are four categories in the Research and Innovation Paper Competition:

- Clinical Sciences and Patient Based Research
- Basic Science/Translational Research
- Innovations in Healthcare
- Hospital and Healthcare Management

Abstract Winners

Oral category

1. 1st Prize: Achieving Bariatric Patient Engagement with Digital Education Platforms
   Mr Shyam Gokani

2. 2nd Prize: Provision of Healthcare for Homeless people in Coventry
   Dr Aiesha Alexander

3. 3rd Prize: Systematic Review Of Infant And Young Children Complementary Feeding Practices In South Asian Families
   Miss Jia Ying Kuah

4. 4th Prize: Mechanisms Of Management Of The Disease That Is Society Today ~How Does Social Prescribing Work?
   Miss Tanvi Raghvani

Poster category

1. 1st Prize: Evolution, Ethics, And Etiquette – The Similarities And Fundamental Differences Of Modern And Classical Roman Medicine
   Mr Abhrajit Giri

2. 2nd Prize: Emergency Department Audit: Assessment of Hypotension in the Elderly Patient
   Dr Marc A Jacobson

3. 3rd Prize: Does high fidelity simulation training benefit post graduate medical trainees
   Dr Deepika Chhabra

Coordinators of the competition


Dr Sunil Daga

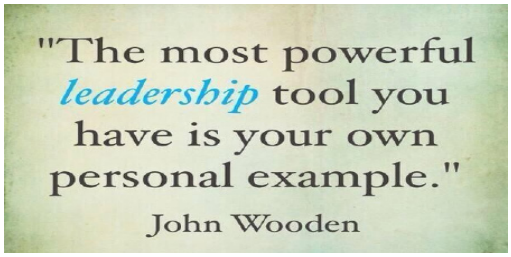

Dr Subarna Chakravorty


Dr Enoch Stuart


Dr Asha Kasliwal


Dr Neeraj Bhala


Dr Andrew Long



British Association of Physicians of Indian Origin (BAPIO) held the first BAPIO Research & Innovation Competition in collaboration with Royal College of Physicians, Royal College of Paediatrics and Child Health and Doctors Academy during its Annual Conference on 19th and 20th November at London. The competition was intended to provide a platform for enthusiastic and academically oriented medical students and young doctors to present their research & innovation work to national audience, either in the form of an oral or a poster presentation.

Oral Presentation

1st Prize

Mr Shyam Gokani

Achieving Bariatric Patient Engagement with Digital Education Platforms

Mr Shyam Gokani, final year medical student receiving Award from Prof Bipin Batra at the BAPIO Annual Conference held on 19th November 2016 at Park Inn Hotel -Heathrow, London. (L) Prof Neena Modi, and (R) Prof Jane Dacre. He was sponsored to make presentation at the GAPIO Conference in India and facilitated to gain one week experience in India in the Paediatric faculty.

2nd Prize

Dr Aiesha Alexander
Provision of Healthcare for
Homeless people in Coventry

3rd Prize

Miss Jia Ying Kuah
Systematic Review of Infant and Young Children
Complementary feeding Practices In South Asian Families

4th Prize

Miss Tanvi D Raghvani
Families: Mechanisms Of Management Of
The Disease That Is Society Today
~How Does Social Prescribing Work?

Poster Presentation

1st Prize

Mr Abhrajit Giri
Evolution, Ethics, And Etiquette
The Similarities And Fundamentals
Difference Of Modern And Classical Roman Medicine

2nd Prize

Dr Marc A Jacobson
(Dr Himanshu Kataria Collected on behalf of Dr Jacobson)
Emergency Department Audit:
Assessment of Hypotension in the Elderly Patient

3rd Prize

Dr Deepika Chhabra
Does high fidelity simulation training
benefit post graduate medical trainees

My Experience of the Conference and Attachment in India *Dr Shyam Gokani*

I am extremely grateful for having been given the opportunity to travel to Hyderabad in January 2017 by BAPIO and Dr Ramesh Mehta as part of the BAPIO research and innovation competition. The Global Association of Physicians of Indian Origin Conference in Hyderabad was an entertaining and enriching especially rewarding to hear leading physicians discuss their work with one another and foster new global collaborations! I was delighted to be able to present my work at the conference.

However, by far the most exciting component of my journey was the opportunity to shadow the paediatric team at Rainbow Hospital, Banjara Hills. Under the hospitality of Dr Dinesh Chirla and Dr Prashanth I was able to observe Medicine being practiced in a very different setting to the usual clinics in London.

Firstly, it was extraordinary to see the stamina with which the doctors were able to see up to 100 patients per clinic, with remarkable efficiency that put the NHS 15-minute consultation to shame. This was certainly made a lot easier by the strong relationships that Dr Lokesh Lingappa had with the admin staff and junior clinicians, who all amalgamated to form one highly functioning unit which saw all the patients together in one room. It was also refreshing to see that the clinicians had embraced simple technologies such as Google Drive far in advance of their contemporaries in the UK.

Secondly, it was extremely useful to see a whole range of clinical presentations in the space of a few days. This was an unparalleled opportunity and it would certainly have taken a few months at the very least to see the same variety of cases in London. Because of this, I think my time in Hyderabad has certainly improved my clinical skills, but it has also given me a chance to reflect upon and adapt my communication style with patients.

One final eye-opening experience to mention was the fantastic basic life support course held at Rainbow Hospital. The course, taught by experts in paediatric intensive care, was attended by a host of school teachers, sports coaches and policemen who had all previously been in a situation where they could have benefited from basic life support knowledge. The sessions were highly practical and the attendees took away some useful skills that would certainly benefit the community in the near future.

Dr Gokani receiving certificate at the GAPIO Annual Conference 2017 in India. (L) Dr JS Bamrah, Cairman of BAPIO and (R) Dr Ramesh Mehta, President of GAPIO.

There was also an important emphasis placed upon setting up efficient reporting mechanisms for accidents in schools and sports halls which would have a lasting impact on the ability of these institutions to care for children. I myself also received an education in basic life support that was far superior to that of my medical school training!

Overall, my time in Hyderabad was a thoroughly enjoyable experience and I would once again like to thank Dr Ramesh Mehta, the organisers of the BAPIO research and innovation competition, and the staff at Rainbow Hospital for making this opportunity possible. As I readjust to the dreary clinics of North West London, I find myself increasingly eager to hear about the experiences of future students! ❑

Achieving Bariatric Patient Engagement with Digital Education Platforms

Gokani, S; Kerry. G; Ash, J; Zargaran, A; Rasasingam, Dr Mittal, A; Yu, J; Mobasheri, M; King, D; Darzi, A.

Imperial College London

Background:
Advances in information-technology (IT) provide time and cost-effective opportunities for educating those with chronic conditions, especially bariatric surgery patients. However, digital interventions are frequently not taken up due to a lack of patient-centred design. This study aimed to establish the potential for bariatric patient education using IT, and evaluate the factors which determine patient engagement with digital education platforms, by analysing the 'Usher' app at St Mary's Hospital, Paddington.

Methods:
A four-step research process was employed. Firstly, a systematic literature review evaluated the current use of digital education for bariatric patients. Secondly, qualitative usability-testing of Usher by 14 patients identified specific problem areas. Findings were combined to generate a theoretical model for successful patient engagement with digital education platforms. Finally, quantitative user-experience testing of Usher and a smartphone usage survey of 210 bariatric patients was conducted. Aspects of the theoretical model were validated using logistic regression.

Results :
93% of patients owned a smartphone or tablet and of these, 44% used health apps. 30 factors which successfully engage bariatric patients with digital education were identified and classified into four categories: patient, content, technological and contextual factors. For example, patients who were aged under 60 (p=0.029), employed (p=0.000), or educated above GCSE level (p=0.004) were more likely to download health apps. Evidence-base and data-security of the app were the most important factors to patients. Whilst 72% wanted their doctor to recommend health apps to them, only 15% actually received a recommendation.

Conclusion: Digital technology is accessible to bariatric patients and numerous interdependent factors are essential to ensure their success in engaging patients. A comprehensive checklist for evaluating digital education platforms is proposed. ❑

Provision of Healthcare for Homeless people in Coventry

Alexander, A; White, F. Yousaf, H. Knott, G. and Chauhan, V.
University of Warwick

Background:

Homelessness in England has been rising for the past 5 years. In 2015, an estimated 3 569 people slept rough on any one night. Homeless people experience some of the worst health problems in society.

For many, access to basic means for maintaining health is lacking. Evidence shows homelessness is often overlooked public health planning, meaning the needs of some of the most vulnerable members of our community risk being unmet.

Methods:

We conducted a mixed methods study, using the Homeless Link Audit Tool to survey 44 homeless people in Coventry,

in addition to conducting semi-structured interviews with 3 homeless people and 7 stakeholder agencies to obtain their views on current health services.

Results:

Long-term health problems or disability were reported by 56% of participants. Mental health problems were a significant health issue, with high reported levels of depression and anxiety (66% and 52% respectively). In addition, 52% used drugs and/or alcohol to "self-medicate" in order to cope with their mental health problems. Barriers to accessing healthcare included difficulty obtaining appointments in primary care, poor relationship with healthcare professionals and accessing mental health services when there was a dual diagnosis of drug or alcohol abuse. Key areas for improvement highlighted include training for frontline healthcare staff, developing outreach health services and multidisciplinary team meeting healthcare staff and voluntary services.

Conclusions:

Homelessness has a significant impact on an individual's health and wellbeing. Our research has shown improving healthcare for these patients can only be achieved through an integrated, multi-agency approach between health, housing and voluntary services.

Systematic Review of Infant and Young Children Complementary Feeding Practices In South Asian Families

Manikam, L; Robinson, A; Prasad, A; Kuah, J.Y; Dharmaratnam, A; Stephenson, L; Shafi, T; Ahmed, S; Lingam, R; Lakhanpaul, M
University Collage London

Background:

Sub-optimal nutrition among children remains a significant problem across UK South Asian (SA) families. Appropriate complementary feeding practices (CFP) in the first two years of life
greatly reduce the risk of obesity and stunting. It is hypothesised that the UK diaspora have similar CFP to their countries of origin (India, Pakistan and Bangladesh). If true, this could inform practice in the UK via reverse translation of evidence.

Aim:

To undertake a systematic review and narrative synthesis of studies assessing CFP and beliefs that underpin them in children under two years within SA families living in UK, India, Pakistan and Bangladesh.

Methods:

The databases used were MEDLINE, EMBASE, Global Health, Web of Science, OVID Maternity & Infant Care, Cochrane Library, POPLINE and WHO Global Health Library. Papers were searched from January 1990 to June 2016. The eligibility criteria were all primary research studies on CFP in SA children aged 0-2 years and/or their families, restricted to the English language. The search terms used were: "children", "feeding" and "Asians" with their derivatives. Study selection, data extraction and quality appraisal (EPPI-Centre Weight of Evidence) were performed by two independent researchers using a narrative synthesis approach.

From 45,702 studies identified, 157 descriptive studies were included. These consisted of 10 from the UK, 17 from Pakistan, 84 from India, 43 from Bangladesh and 3 from a combination of these countries. Despite adoption of the WHO Infant and Young Children Feeding Guidelines, significant evidence of unrecommended CFP were identified. Factors that influenced these practices persisting after migration included bicultural or low acculturation levels and conflicting information between health professionals, extended family and/or religious/community leaders.

Evolution, Ethics, and Etiquette

– The Similarities and Fundamental Differences of Modern and Classical Roman Medicine

Giri A
Bart's and the London SMD

Is Medicine a science or an art? What is more important: treating diseases or comforting patients? How did it all begin? These burning questions have haunted historians for generations. In this project the author wished to explore the similarities and fundamental differences in Classical Roman and Modern medical practice with special reference to Evolution, Ethics and Etiquette by literature search through books, journal articles and web-based teaching materials prepared by the Archaeologists and Historians.

Classical physicians adopted a logical approach to medical practice. They had a caring attitude; their behaviour and conduct was governed by high ethical standards. Whilst Modern medicine has been blessed by unparalleled scientific development, in the quest to provide universal healthcare through cost-effectiveness it may have lost individualisation and human touch.

There is a remarkable similarity in the systematic approach of the Classical Roman physicians and modern doctors. Society changed over the years, its values evolved but the "bible of ethics," the Hippocratic Oath seems to have achieved immortality. Today's target driven, protocol-crazy, Modern medicine could learn the basics of medical etiquette from Classical practice: humanity, compassion, and care.

Emergency Department Audit: Assessment of Hypotension in the Elderly Patient

Jcobson M, Kataria H
Whiston Hospital, St Helens and Knowsley Trust, Merseyside

Introduction: Elderly patients often present to the emergency department (ED) with non-specific signs of infection and excessive fluid loss, with limited research into their management. The purpose of this audit was to assess the initial management of hypotensive elderly patients in the ED: observations within 15 minutes, fluid challenge within 1 hour, time to assessment by a clinician, and initial management of septic shock.

Methods: Online patient systems were reviewed to find 40 patients > 65 years old who were hypotensive (SBP <100 mmHg or DBP) <60 mmHg) in the ED between 1st October 2015 and 16th November 2015. This data was used to perform a retrospective audit to assess their management.

Results: 40 hypotensive patients were identified with an average age of 79.6, with 55% being male. 83% had their observations recorded within 15 minutes of presentation, 35% had their observations repeated within 1 hour, and 35% were fluid challenged within 1 hour. 60% patients were reviewed within 1 hour by a clinician. 33% patients were in septic shock with 41% receiving IVF within 1 hour, and all 40 patients receiving antibiotics.

Discussion: The majority of patients had their observations performed within 15 minutes, however a smaller percentage were fluid challenged within 1 hour with their observations re-checked. Despite a sepsis pathway, hypotensive patients were still not receiving fluids within the hour.

Conclusion: Developing a fast track protocol for hypotensive elderly patients in the ED could improve initial rehydration management and ensure observations are reported in a timely manner.

Does high fidelity simulation training benefit post graduate medical trainees

Chhabra,D Simon,G
Basildon &Thurrock University Hospital

Background:

To identify perception of postgraduate medical trainees on the utility of high fidelity simulation training for complex medical scenarios.

Methods:

A Survey of trainees attending COMETS and FOCUS simulation courses at Simulation lab at Anglia Ruskin University Chelmsford.

Complex medical scenarios mimicking real life was enacted using physiologically responsive mannequins. Oxygen, medications, intra venous fluids, crash trolley, blood results, ECG, CXR, bleeps and phones were used to create a ward environment. Candidates had opportunities to play leadership roles alongside other trainees and faculty. Feedback was given by trained faculty with video playback of specific situations.

A questionnaire based on Likert scale on communication skills, delegation, situational awareness, reflective learning, leadership skills, trainees' perception of improvement in ability to manage medical emergencies, future role of simulation training as a mandatory tool for training and assessment , was completed by trainees.

Results:

All trainees agreed that high fidelity simulation training is able to recreate complex scenarios, and debrief was useful. 100% trainees acknowledged improvement in communication skills, reflective learning and confidence.

Improvement was felt by 95% trainees in situational awareness, 80% felt improvement in delegation, 70% felt improvement in leadership skills. 55% reported no improvement in technical skills. 30% felt this should be part of their yearly assessment and specialty exam. All felt simulation training was useful and should be part of curriculum at Foundation, Core Medical and Specialty Training.

Conclusions:

All trainees felt that high fidelity simulation training will improve their ability to manage complex medical scenarios. However majority felt that this should not be part of their assessments or specialty exams. Trainees valued more simulation courses.

Accuracy of tests used to detect infection with Chlamydia trachomatis in asymptomatic pregnant women: a systematic review

Siew-Veena Sahi, Ewelina Rogozinska, Soha Sobhy, Khalid S Khan
Queen Mary University, Bart's & the London SMD

Purpose of review:

Infection with Chlamydia trachomatis in pregnancy is linked to increased risk of miscarriage, stillbirth and pre-term birth. Currently, Polymerase Chain Reaction (PCR) or DNA-based tests are the gold standard when detecting the infection, however they are costly and require access to specialist equipment. The aim of this systematic review was to assess the accuracy of available tests to detect infection in an asymptomatic pregnant population.

Recent findings:

There was evidence of the superior accuracy of Nucleic Acid Amplification Test (NAATs) to cell culture in non-pregnant asymptomatic women, however there are multiple commercial NAATs with varying sensitivities and specificities. There is a gap in current literature on accuracy studies in an asymptomatic pregnant population, particularly within routine antenatal settings.

Summary:
There is a need for a point-of-care test for chlamydia in pregnancy. Future test accuracy studies for this population should aim to use a universally established reference standard. Further research should provide relevant evidence to guide practice.

Ambulatory Emergency Care - Safe and Cost Effective - The Basildon Experience

Davies, CL; Begum, H; Olaitan, O; Nadarajah CV, Ali, F
Basildon University Hospital

Background:

The NHS is facing a period of financial crisis without the provision of sufficient inpatient beds. Methods for providing safe, efficient and high quality care must be employed. The introduction of ambulatory emergency care is an innovative way of providing healthcare.

Objectives:

We investigated the patient demographics assessed in AECU, the content of their assessments and the financial savings due to avoidance of hospital admission and enablement of earlier discharge.

Methods:

We conducted a retrospective audit of the period including 1st January 2016 to 30th June 2016. Data was collated from PACS imaging, pathology reports, EMR and the Clinical Portal for all patients assessed in AECU across 19 clinical pathways. We audited the parameters, new/follow up status, referral source, investigations, practical procedures, specialist clinical reviews, 30-day re-admission, mortality rates, cost and net savings.

Results:

Admission rate to medical beds was dramatically reduced. Average true hospital avoidance was 34% where AECU prevented 484.5 per one month. We investigated safety using the 30-day re-admission rate (1.2% per month), and 30-day mortality rate (0.6% per month). The average admission rate per month from AECU was 6% of all patients assessed.

Overnight stay for a BTUH bed costs £250. 68% of the patients in the AMU ward follow-up category represented earlier discharge, saving (£250) each. With average AECU expenditure of £44,067.64 per month, the saving was £271,962.50 per month via admission avoidance and earlier discharge. This generates a net saving of £227,894.86 per month (£2,734,738.32 per annum).

Conclusions:

Our study demonstrates that AECU provides an excellent opportunity to provide safe, efficient management, with significant cost saving and bed requirements for the NHS.

Are systemic antibiotics indicated in aesthetic breast surgery? A systematic review of the literature.

Bechar J, Hardwicke J, Skillman J
University Hospitals Birmingham

Background:

The use of systemic prophylactic antibiotics to reduce surgical- site infection in aesthetic breast surgery remains controversial. The aim of this review is to weigh the available evidence with respect to reducing surgical-site infection.

Methods:

Two literature searches were performed to analyze the available data for studies involving either reduction or augmentation mammaplasty and the results of different antibiotics regimens. Outcome measures included surgical- site infection and capsular contracture.

Results:

A total of 2971 patients (5891 breasts) were included. A meta-analysis of surgical-site infection incidence after aesthetic breast surgery revealed a significant reduction in infections overall with antibiotic prophylaxis com- pared with controls ($p = 0.02$). This was most significant with a single pre- operative antibiotic dose ($p = 0.02$). In cases of reduction mammaplasty, when antibiotics are administered as a single preoperative dose, the risk of developing surgical-site infection is halved. With augmentation mamma- plasty, there was no effect on infection rates with any antibiotic regimen. Data concerning the incidence of capsular contracture were insufficient for meta-analysis.

Conclusions:

For cases of reduction mammaplasty, the authors recommend a single intravenous perioperative dose of antibiotic with action against Staphylo- coccus species. For augmentation mammaplasty, there is no evidence to refute current guidelines, based on recommendations obtained from other forms of implant surgery.

Development of a simulation based training program for pilot implementation of community based robotic colonoscopy

Kopczynska, M. Dolwani, S
Cardiff University School of Medicine

Aims and Objectives:

In this study we assessed the feasibility of development of a robotic colonoscopy training programme with use of a simulation based training model. We also investigated the learning curve of the participants performing the robotic colonoscopy.

Methods:

This study involved participants with various degree of skills and background knowledge in the field of colonoscopy. We enrolled three expert endoscopists, three trainee endoscopists, two novices and two experienced video gamers. Participants performed a full colonoscopy on a model at the Welsh Institute for Minimal Access Therapy (WIMAT) centre, and identified the inserted lesions. Afterwards they filled out a questionnaire evaluating the robotic
colonoscope.

Results:

On average, experts required the shortest time to reach the caecum, followed by video gamers, trainees then novices. Polyp detection rate was the highest in the novice group (91.67%) followed by the experts (86.11%), then equally trainees and video gamers (79.17%). Four out of nine participants attended the follow-up session where they repeated the procedure from the first session. All of the endoscopists who participated in the follow-up session achieved a shorter caecal intubation time along with a higher polyp detection.

Conclusions:

This study shows a potential to reduce the steep learning curve associated with standard colonoscopy training through the use of robotic devices. The endoscopists rapidly improved their performance, regardless of previous colonoscopy experience. The results are promising for applying robotic colonoscopy in the community

Near-peer to peer simulation teaching as an introduction to the clinical environment for undergraduate medical students.

Dr Kellie Bateman
University of Bristol and Bristol Medical Simulation Centre

Background:

The use of high fidelity patient simulation scenarios enables exposure to common acute medical conditions in a safe and controlled environment whilst promoting confidence. This programme was developed by a final year medical student, with support from a FY2 simulation fellow. The programme was aimed at second year medical students to introduce them to the clinical environment. Near-peer to peer teaching offers the advantage of learning for both the facilitator and candidates whilst providing a facilitator who is familiar with the demands of the curriculum.

Methodology:

A three hour simulation programme was devised to incorporate introduction to clinical simulation, assessment and management of an unwell patient and communication skills including effective handover. Two asthma simulation scenarios were developed with a more unwell patient in the second scenario. 22 second year medical students were taught over 2 sessions. Assessment was carried out using pre- and post- simulation confidence with ratings from 1-5, 5 being highly confident.

Results:

Overall confidence ratings improved from an average score of 2.3 pre-simulation to 3.8 post simulation. Improvement in confidence ratings was seen across all objectives measured particularly in assessing asthma and using SBAR. Constructive feedback from the students focused on the 'realistic experience' and the opportunity for 'use of clinical equipment'.

Conclusions:

Simulation is a useful medium for introducing students to acutely unwell patients and the increased confidence ratings demonstrated post-simulation could help improve confidence in clinical placements. Enabling students through near-peer to peer simulation programme provides a non-threatening, realistic learning environment whilst supporting the development of 'the doctor as a teacher', as recommended by GMC guidance in 'Tomorrows Doctors'.

Does the presence of thyroiditis affect Radioiodine Uptake in thyroid cancer ablation doses?

Shah,Shanty George
Queen Mary University, St, Bartholomew's Hospital

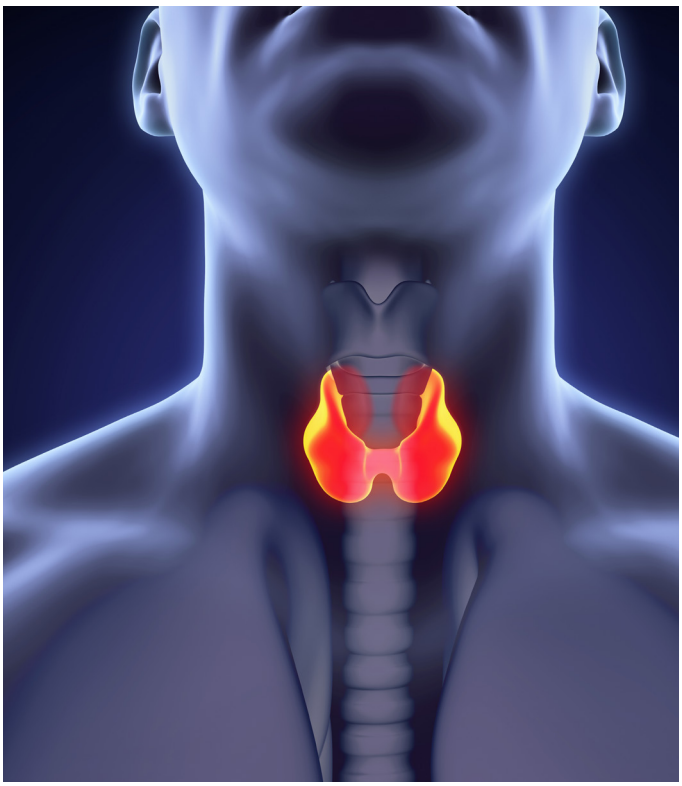
Background:

Patients being treated for differentiated thyroid carcinoma (DTC) receive a dose of Radioiodine at a low dose for thyroid remnant ablation. Occasional patients appear to have little or no iodine uptake at all in the thyroid bed or elsewhere even shortly after thyroidectomy. Coexistence of DTC with thyroiditis is suspected to be one possibility for reduced RAI uptake. We evaluated the influence of coexisting thyroiditis on radioiodine uptake.

Patients and Design: This is a retrospective study of 240 patients who received 131I remnant ablation at St. Bartholomew's hospital, London UK, in a fixed time period between the years 2012 to 2015. Of 240 patients 165 had their histopathology reports evaluated and 75 were not available at the time of the study.

Methods:

We compared Radioiodine uptake on the nuclear medicine tail-end scan with initial histopathology reports and thyroid autoantibody status. Reports were evaluated also for high risk determinants like lymph node metastasis and extra thyroidal extension.



Results:

Among 165 DTC patients 52 (30.7%) presented with coexisting thyroiditis. Of the 52 patients with thyroiditis 28 (53.8%) showed poor iodine uptake on the tail end scan compared to those without thyroiditis. P value 0.000. Patients with thyroiditis also demonstrated low level of extra thyroid extension (17.6%) and lymph node metastasis (34.6%) compared to DTC without thyroiditis. P values 0.003 and 0.064 respectively.

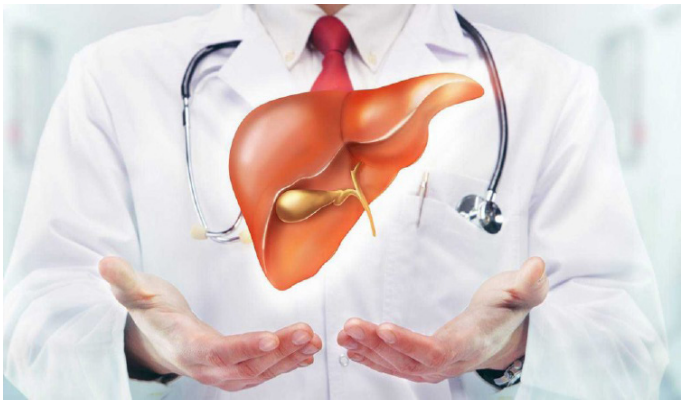
Conclusion:

In this study the presence of thyroiditis with DTC was associated with poor radioiodine uptake. This may have implications on how we manage thyroid cancer in patients with coexisting thyroiditis. Females had higher inclination to thyroiditis and low RAI uptake. Coexisting thyroiditis was also associated with reduced risk of recurrence of the disease.

The Analysis of Bile Salt Resistance of Bacteria Isolated From the Human Biliary Tract

Tank V
Norwich Medical School/Addenbrooke's Hospital, Cambridge University Hospitals/The Institute of Food Research, Norwich Research Park

The gastrointestinal tract is home to more than 10 trillion bacteria and dysbiosis within this microbiota has been linked with numerous autoimmune diseases. The biliary tree is intrinsically linked to the liver and the gastrointestinal tract with 70% of the livers blood supply coming directly from the gastrointestinal tract via the portal vein, resulting in continual exposure to gut bacteria. Conventional wisdom dictates that bile is sterile and studies have previously been unable to culture bile. The pathogenesis of hepato-biliary diseases such as Primary Biliary Cirrhosis (PBC) and Primary Sclerosing Cholangitis (PSC) are thought to have an infectious trigger although studies have failed to show any significant bacteraemia in mesenteric and peripheral blood samples. Recent molecular profiling work at the Institute of Food Research (IFR) has discovered that undiseased bile obtained at the time of liver resection contains a diverse microbiota and many strains of bacteria have been successfully cultured. It is therefore possible that bile may contain bacteria, which could trigger disease in genetically susceptible patients, especially if they are able to survive within the biliary tract and alter bile salts. PBC and PSC are two of the leading causes for liver death and liver transplantation. Both conditions present with a multitude of unpleasant symptoms and currently there is no cure for either of these two conditions and the exact cause of each condition is still unclear. Studying bacteria isolated from bile samples and seeing whether they contain any resistant properties against bile salts helps gain an improved understanding into the pathophysiology of both conditions that could then be further investigated to implement a possible treatment pathway.



Equipping our future doctors: Incorporating management and leadership into medical curriculums in the United Kingdom.

Bharamgoudar, Reshma and Sonsale, Aniket
Imperial College London & Kings College London

Throughout their careers, doctors are likely to come across complex management and leadership scenarios that many would not have had prior training in. Expectations of doctors are rising and it is becoming increasingly necessary to be able to astutely handle a variety of situations. Medical curricula must reflect this change and adapt to include the teaching of key management and leadership skills. Despite budgeting pressures, the NHS continues to spend vast sums of money on external management consultants. The 2013 Francis Report stressed the need for better management skills and leadership, especially in doctors who were identified as the spearheads of change. This view is backed up by senior professionals who stress that by incorporating it into undergraduate curricula, doctors will be equipped with the skills to flourish in the future. The challenges of doing so must be highlighted; since the teaching of managerial and leadership concepts must effectively combine theoretical approaches with practical applications. Empowering students of today will enable them as tomorrow's doctors to tackle the challenges of modern medicine.

Ethnicity and prevalence of multiple sclerosis in East London

Miss Narmadha Kali Vanan
Royal London Hospital, East London

Background:

Incidence and prevalence rates of multiple sclerosis (MS) are generally higher in White populations than in other ethnic groups. Relevant studies in the United Kingdom were conducted over 30 years ago.

Objectives:

To provide updated ethnicity-specific MS prevalence rates in the United Kingdom.

Methods:

Electronic records from general practices (GPs) in four east London boroughs were queried for the number of people diagnosed with MS, grouped by ethnicity, into 5-year age bands. Compared against total registered GP patients in the area (c. 900,000), the age-standardised MS prevalence was calculated by ethnic group.

Results:

The overall age-standardised prevalence of MS was 111 per 100,000 (152 for women and 70 for men), and 180, 74 and 29 for the White, Black and South Asian populations, respectively. The sex ratios (female: male) were 2.2:1, 2.1:1 and 2.8:1, respectively.

Conclusion:

MS prevalence was considerably lower among Black and South Asian populations, compared to the White population, by 59% and 84%, respectively. However, compared to available data in Africa and South Asia, MS is several times more prevalent among Black people and South Asians living in the United Kingdom than their territorial ancestry.

End of Life Care Decisions in Metastatic Malignancy

Khan K, Simon,G
Basildon &Thurrock University Hospital

The aim of the audit was to assess the extent to which ceiling of care decisions were made in patients with metastatic malignancy.

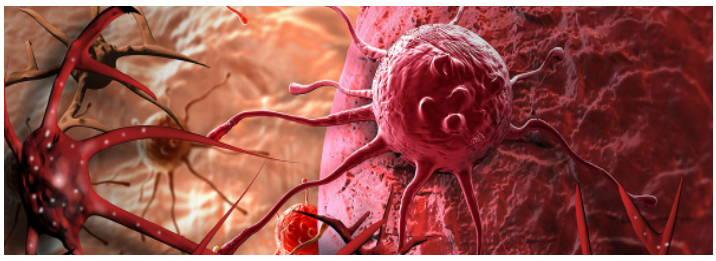
Electronic Medical Records of patients admitted to Acute Medical Unit at our District General Hospital with known metastatic disease were reviewed for previous End of Life Care decisions. The patients were followed up during hospital stay regarding end of life care decisions made subsequently during the index admission.

GMC guidelines outline when to consider do not attempt cardio pulmonary resuscitation (DNACPR). It is important to discuss End of Life Care decisions with patient and family and record DNACPR if it will not be successful, for patient to die peacefully and with dignity. Challenges in decision making are reluctance or fear to discuss, poor communication, decision made in ad-hoc manner and variations

27 patients were included in the audit. Site of primary Cancer in patients involved were highest for breast 26% (7 patients), followed by lung 19% (5).26(96%) patients had diagnosis of metastatic disease discussed with them. For 12 (44%) prognosis and Treatment Escalation Plans were not documented. 13 (48%) patients had no DNAR decision or documentation of end of life care discussion in previous records. Only 3(11%) patients had previous DNAR decision available on Electronic Medical Records.

Most discussion were conducted in Acute Medical Units when patients n=9 (33%) presented with an acute medical emergency, while no discussion for DNAR had taken place in Oncology clinics.

- End of life care decisions were not made by timely fashion as advised by GMC guidelines.
- Engagement of clinicians is necessary for End of Life Care Decisions in a timely fashion.



Evaluation and management of hyponatremia, a DGH experience

Ashar Rais, Godwin Simon
Basildon university hospital

Hyponatremia is common in many acute admissions. The causes are multifactorial. The symptoms range from mild to severe cognitive and neurological impairment which may ultimately lead to seizures.
We did a baseline audit to see how hyponatremia is evaluated and managed in a DGH.

125 patients with hyponatremia defined as sodium less than 125, were identified by computerized search of biochemistry lab data over a period of two months. An audit proforma was used and individual case notes were reviewed. We included patients who had a hospital stay for at least forty-eight hours. Surgical, renal, ITU, palliative patients, patients with diabetes (pseudohyponatraemia), advanced cardiac and liver disease were excluded leaving 24 patients.

Audit results showed that 100% of patients had documentation of relevant drug history. In 81% of cases causative agents were discontinued. Only 50% of patients had documentation of volume status and 29%of patients had paired plasma and urinary osmolalities and Urine spot sodium done in the first twenty-four hours after admission. 66%of patients had appropriate monitoring of sodium levels in relation to the degree of hyponatremia. Sodium shifts were appropriate in majority of the patients.

This audit identified significant deficiencies in documentation of volume status and biochemical investigations at admission. The audit result also highlighted deficiencies in fluid management and lack of appropriate monitoring during correction of hyponatremia. Hyponatremia in acute clinical setting should be investigated and managed in a systematic fashion.

Evolution of the management of CN type I syndrome over the last 30 years

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Background:

Crigler–Najjar syndrome (CNS) type I is a rare inherited disorder of hyperbilirubinemia, which if left untreated may lead to kernicterus and even death. There are very few long-term follow-up paediatric studies published in the past, describing the natural course of CNS type I and the evolution of treatment modalities to treat this condition.

Methods:

We retrospectively collected data from 48 patients who were diagnosed with CNS between 1976 and 2016 at King's College Hospital, London.

Results:

Thirty patients had CNS type 1 and the rest had CNS type II. Consanguinity was seen in 53.8% of CNS type 1 patients and the peak bilirubin value before diagnosis was 461[Symbol]mol/l. The median duration of phototherapy before transplant was 12 hours a day. Twenty-two CNS type1 patients had liver transplant, out of which 10 patients had auxiliary transplant. Two patients with native liver had successful pregnancies. Neurological complications were seen in 5 out of these 20 patients (4 kernicterus and 1 speech delay). Four patients with CNS type 1 died during the follow-up period.

Conclusion:

CNS type I disease requires aggressive phototherapy since birth to prevent neurological complications. Liver transplantation remains the only permanent cure available for this rare disease. Both phototherapy and liver transplantation are associated with complications and morbidity. This underlines the need for other curative treatments like targeted gene therapy.

EWS scoring and associated response time in surgical patients – a pilot study

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Surgical wards are populated with a patient base that are rarely stable and may become acutely unwell very quickly.

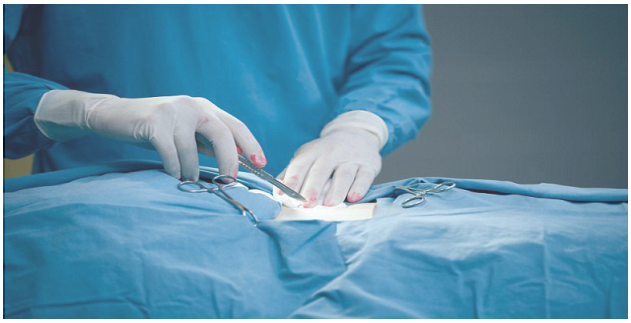
The purpose of this study was to assess whether local guidelines - adapted from national EWS recommendations - are being followed by the doctors employed in the trust and, if not, why not.

- Should a patient's EWS score >4/=4, the duty FY1 or FY2 must be informed and a response documented within 30 minutes.
- Should the patient's EWS score >6/=6, the registrar or consultant should be informed and a documented management plan must be in the notes within one hour.

We studied 104 patients over a two week period, and noted that 47% patients scoring 4 or above, and 57% patients scoring 6 or above were documented as required.

Following education, presentations in M&M meetings and posters, 51 patients were re-audited. The response rate showed 19% patients scoring 4 were seen, but 87% patients scoring 6 or above.

Reasons given by junior doctors included being present on the ward and not seeing need for intervention, consistently high scoring patients and EWS hypersensitivity.



Experience with anticoagulation for atrial fibrillation in an acute stroke unit - revisiting challenges in clinical practice

Manupati S, Krishnan M, Gurung S, James K
Morriston Hospital, Swansea

Aim:

Re-audit of anticoagulation practice in acute ischaemic stroke (AIS) with non-valvular atrial fibrillation (AF).

Methods:

Prospective data on 50 consecutive patients with AIS and AF (new and old) was collected on a structured proforma.
Standards used were the acute stroke management guidelines which were designed after a survey on a similar cohort of 25 patients last year incorporating NICE guidance on novel oral anticoagulants (NOAC).

Results:

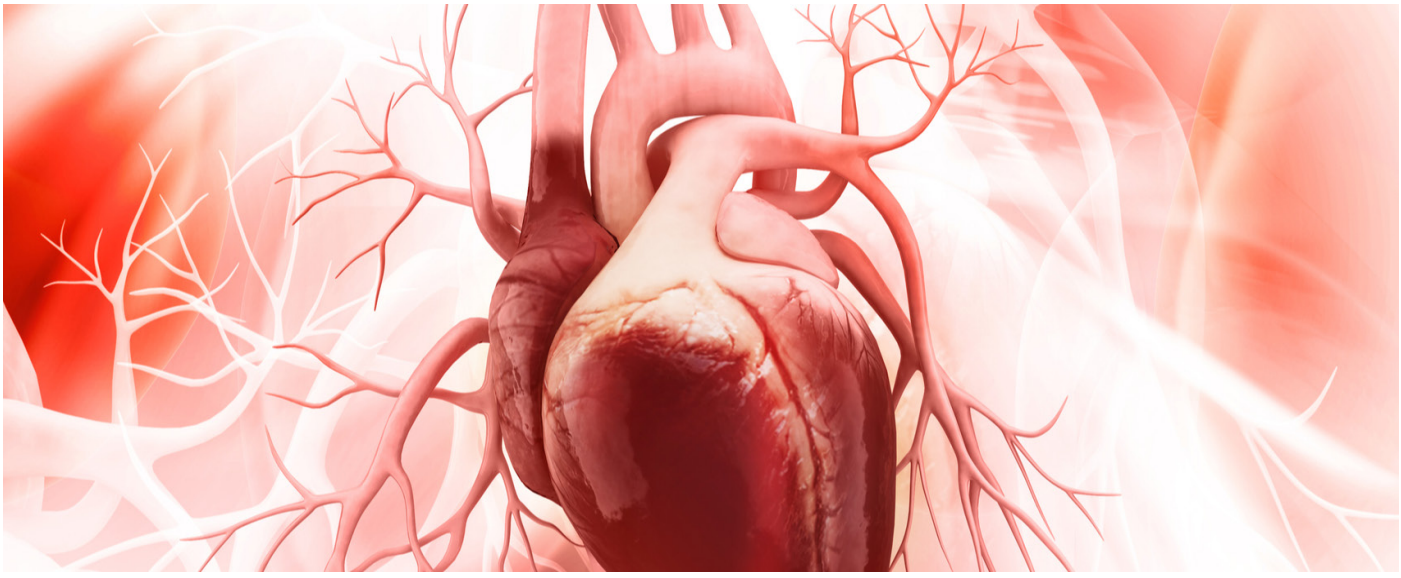
Of the AIS admissions with known AF (62%), only 45% were anti coagulated of whom majority (85 %) were on Warfarin with time in therapeutic range (TTR) <50% as per Rosendaal method. 39% were on anti-platelets, 16 % not on any treatment as Warfarin was declined and most were not offered NOAC in primary care.

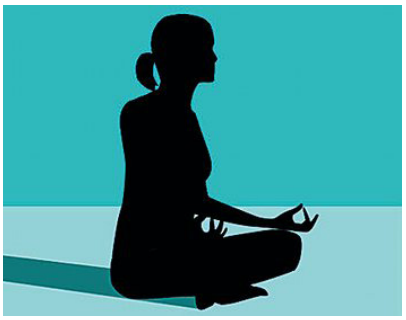
Anticoagulation was safely initiated in majority of AIS admissions within 14 days. Those with large infarcts and haemorrhagic transformation had their anticoagulation initiated after day 14. Apixaban (40%) was the preferred anticoagulant of choice followed by Warfarin (35%) and Rivaroxaban (25 %). Three bleeding events were reported while on Warfarin, nil on NOAC. 30-day mortality was 10% in this cohort, all due to AIS complications and none related to bleeding from anticoagulation.

Conclusions:

Our re-audit revealed areas of good clinical practice including appropriate initiation of anticoagulation after AIS, correct dosing of NOACs and pharmacist counselling.

Raising awareness among the patients and educating GP's of the risk of stroke and alternatives to Warfarin needs a well-planned multifaceted strategy.
Calculating TTR for those on Warfarin and switching to other alternatives as per NICE guidance needs to be emphasized. Local stroke guidelines are being updated with plan for re-audit next year.





How did the Health and Social Care Act 2012 Affect the Commissioning of Mental Health Services in England

Patel A
Bart's and the London SMD Institute

Mental Health services in the NHS have come under pressure due to chronic underfunding and constrained resources, resulting in increasingly inadequate provision of services. The Health and Social Care (HSC) Act 2012 introduced three new legal duties to the commissioning of services: the 'duty to arrange,' the 'duty to promote competition,' the 'duty to integrate'; as well as a new tariff system that has been implemented across NHS services. This study aims to assess how the HSC Act has affected the commissioning of mental health services in England and how the three new duties are being fulfilled. Freedom of Information requests were sent to all 211 Clinical Commissioning Groups (CCGs) in England.

168 CCGs provided details for 2693 contracts worth over £7 billion. Of these, 68% of all mental health contracts have been awarded to the Third Sector (private for profit, not for profit and voluntary organisation), though this amounts to only 6% of the total value of contracts commissioned. Conversely, 22% of contracts were awarded to NHS Foundation Trusts, these contracts contributed to 70% of the total value of contracts commissioned. Additionally, the payment methods for commissioning services are changing yearly, with fewer block contracts and more involvement in the 'Any Qualified Provider' scheme. The high volume and low value of contracts being commissioned to Third Sector organisations is not in keeping with the duty to integrate; resulting in considerable fragmentation of mental health provision.

The emerging external market is a result of the HSC Act promoting diversification of the provider market through the duties to arrange and promote competition. This raises concerns over the transparency and accountability of an NHS that will increasingly be provided by companies.

Management of obesity, a DGH experience

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Basildon university hospital

The Health Survey for England – 2013 reported that approximately a quarter of adults (26% of men and 24% of women) were obese and 41% of men and 33% of women were overweight.
Obesity is directly linked to several illnesses including type 2 diabetes, fatty liver disease, hypertension, gallstones, gastro-oesophageal reflux disease and psychological morbidities.

We did a baseline audit to evaluate how obesity is managed in a DGH. Patients were recruited in the audit who attended sleep clinic in April 2015. Obese patients who required CPAP due to obstructive sleep apnoea were recruited. The objectives were to see whether obese patients with complications like sleep apnoea are appropriately assessed and investigated. The audit also aims to see whether patients having obesity have been offered any medical or surgical treatment as per NICE guidelines. Data was gathered retrospectively from clinical letters.

The audit result showed 45 patients attended sleep clinic in one month. Obesity assessment was not done as per nice guidelines in any of the patients. 20% of the patient had diabetes. 42% of the patients had hypertension. Only 24% of the patients were counselled regarding obesity. None of the patients were offered medical treatment for the treatment of obesity. Only one patient was offered surgery for his obesity.

The clinical problems related to obesity are becoming more and more common. Obese patients can develop life threatening complications with time. Obesity should be considered as a serious co-morbidity. Obese patients should be assessed, investigated and treated as per nice guidelines.

Pitstop perfect performances - lessons to be learnt from industry

Hayward R, Hayward A, Cleaton L
Neonatal Unit, University Hospital of Wales

Aim:

To optimise practices in neonatal resuscitation using the processes used by a Formula One (F1) team.

Methods:

Processes involved in neonatal resuscitation were identified and analysed. Three main components were selected for development: resuscitation equipment, the space available for resuscitation teams and team dynamics. Each component was analysed with a F1 team and comparisons drawn with practices conducted during a pitstop i.e. a time critical task performed by a multi-professional team. Changes were made to each component for example, streamlining the equipment trolley, implementing a neonatal footprint in delivery theatres and developing key elements of effective team working.

Results:

A colour coded resuscitation trolley has been developed enabling direct access to essential items during resuscitation. Checklists, a user manual and 'on-the-spot' tests have reinforced learning and familiarisation with the resus trolley. The implementation of a dedicated area in delivery theatres (cleared in neonatal emergencies) has enabled direct access to the patient and equipment by all members of the team. Clear allocation of roles to team members, critical appraisal of each resuscitation, fault listing and debriefing sessions will improve how team members interact and identify factors that influence their performance.

Conclusions:

Lessons from F1 can be incorporated throughout the healthcare system. Team performance is dependent upon having a defined leader and clearly identified responsibilities for all team members. Access to essential equipment, adequate training and preparation (simulation scenarios) checklists and debriefing opportunities are essential for optimising team efficiency and providing optimal patient care.

The MSC marker CD248 mediates the switch between bone and fat differentiation.

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University of Birmingham

Background/Aim: CD248 is found on mesenchymal stem cells (MSC) and is highly expressed during ontogeny, malignancy and inflammation. MSC is involved in osteoblast and adipocyte differentiation. In this study, the authors explore the role of CD248 as a differentiation switch between fat and bone.

Methods: CD248-/- and wild type (WT) mice were fed a high fat diet (HFD) and chow. Gross body, gonadal and peri-renal fat pad weights were acquired. CD248-/- and WT-MSC, were differentiated into adipocytes&osteoblasts. Oil-red-O was used to gauge adiposity and ELF staining used to visualise bone deposition. Differentiation was also conducted using PDGF-inhibitor Imatinib, and growth factors PDGF-BB and FGF.

Results: CD248-/- mice gain less weight (8447mg,n=6) than WT (17350mg,n=9) on a HFD diet($p=0.0002$).
CD248-/- MSC showed decreased adipocyte differentiation compared to WT (1.8% for adipocytes derived from CD248-/-MSC versus 9.6% image-fat coverage for WT-MSC $p<0.0001$); replicating in-vivo findings. This phenotype was exaggerated with PDGF-BB stimulation and ablated using Imatinib due to a PDGF signal transduction defect in CD248-/- mice. PDGF pathway independent growth factor FGF equalised CD248-/- and WT differentiation via a CD248 independent pathway.
MSC osteoblast differentiation showed an inverse relationship to adipogenesis, suggesting a potential CD248 switch between fat and bone.

Conclusion: Genetic deletion of CD248 in mice results in decreased fat formation indicating that CD248 is a positive regulator of mesenchymal fat formation. This phenotype was further demonstrated in vitro using MSC. This was the inverse for bone differentiation. These findings indicate that CD248 mediates the switch between MSC differentiation between fat and bone.

Pit stop Resuscitation – Lap One, the Resuscitation Trolley

Hayward R, Hayward A, Cleaton L
Neonatal Unit, University Hospital of Wales

Introduction:

Organisation and accessibility of equipment on a resuscitation trolley is paramount to the time-dependent nature of resuscitation and its subsequent outcome. This project aimed to optimise practices in neonatal resuscitation using the processes used by a Formula One (F1) team.

Methods:

Equipment currently stocked on the resuscitation trolley was audited. A questionnaire was completed by neonatal staff to ascertain their familiarity with the existing trolley (including the location of essential items of equipment) and identify difficulties with the current lay-out during resuscitations. Accessibility of equipment in the trolley in a simulated resuscitation was also analysed using video footage.
A revised 'stream-lined' resuscitation trolley was subsequently implemented containing essential equipment in accordance with NLS guidance and after consulting lead neonatal resuscitation personnel. Drawers were colour-coded and a user manual constructed for ease of reference. Two months after implementation the trolley was re-audited and staff completed a second questionnaire to identify improvements.

Results:

Re-auditing revealed only 21 items had been added to the revised trolley. 100% of respondents agreed that a) the trolley was organised logically and b) equipment could be readily found (compared to 70% and 40% previously). No delays in intubating or gaining IV access secondary to inaccessible equipment were recorded (compared to 20% previously).

Conclusions:

Familiarity with equipment on the resuscitation trolley and its location within the trolley is a pre-requisite for enabling the rapid provision of specific equipment during a neonatal resuscitation. A consistent method of storing resuscitation equipment has promoted familiarity of use (as staff often work in different neonatal units) and optimised efficient provision of equipment during resuscitation which is key in a time-critical environment.

Mechanisams of Management of the Disease that is Society Today ~ How Does Social Prescribing Work?

Raghvani, T
The Mission Practice, Bethnal Green

Background: Recognising health as, according to WHO, 'a complete physical, mental, and social well-being' has led to the birth of Social Prescribing in primary care. It is used to acknowledge the 'whole person' and the various social determinants that impact both mental and physical health.

A social prescriber is a promoter of 'good health', and is at the crux of changing health models from 'illness' centered to 'wellness' centered. Nobody can be healthy alone, in fact, given the right conditions, health is contagious and can spread like an infectious disease.

Methods: Qualitative methods were employed to assess the influence such a 'networker of well-being' has on patients in a practice in East London. 15 patients who had a minimum of 1 face-to-face consultation with the social prescriber were selected. All data was collected from semi-structured telephone interviews. Key recurring themes were extracted from these case studies.

Results: These patients reported that the social prescriber had a positive impact on their mental well-being and overall physical health too. Patients felt they were empowered to manage their own conditions, more compliant and noted a reduction in the number of consultations booked with the GP. The effect of loneliness was also explored and it emerged that this process allows individuals to be reintegrated into society.

Conclusions: Social prescribing appears to help patients with psychosocial chronic illnesses. It provides a sustainable additive to primary care saving resources and GP time. Patients are actively engaged in the community which provides care in ways pills simply can't. We may applaud ourselves for having found the means to replace the hip, but have we found a way to live with it?

Pulmonary embolism, a quality improvement project, a DGH experience

Ashar Rais, Channa Nadarajaah, Lojana Chandrajan, Godwin Simon
Basildon university hospital

Pulmonary embolism (PE) has a reported incidence of 3–4 per 10,000 people in UK.

We initially completed a baseline audit by retrospectively analysing data for six months to monitor whether our local protocol; risk stratification using Wells score and appropriate imaging was followed. In addition, we retrospectively calculated PESI score (Pulmonary Embolism Severity Index) and identified potentially treatable patients on an outpatient basis.

The audit result showed that 10% of patients had D-dimer requested inappropriately. The Wells score was not documented in 91% of patients. The audit highlighted that 52% of patient stratified as low risk using PESI score could have been managed in an outpatient clinic.

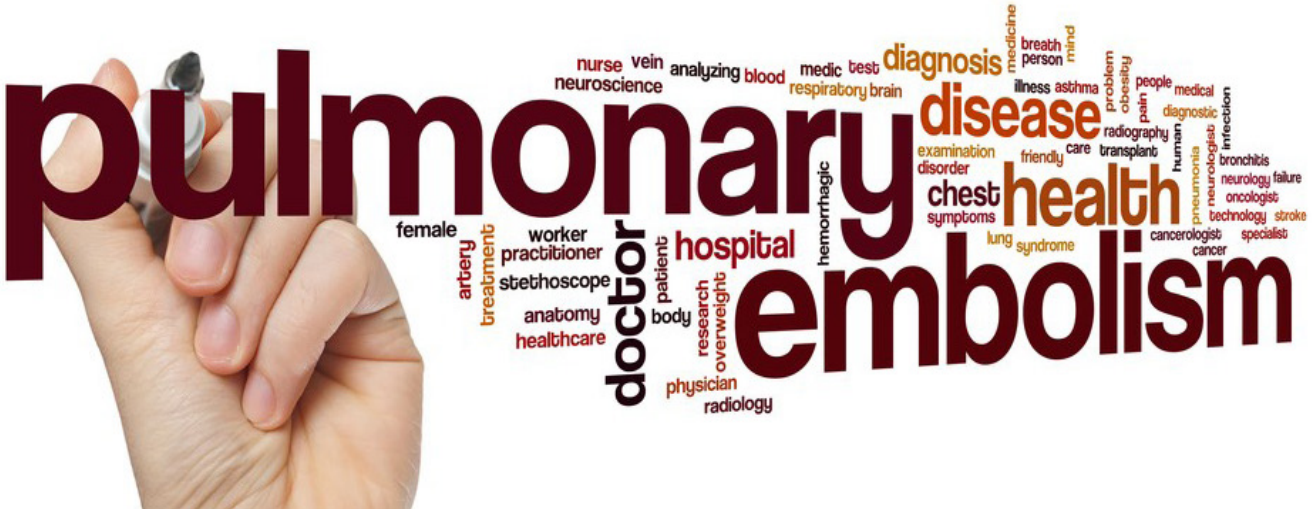
The audit identified that 17% of our imaging for PE were positive which was within acceptable range as per Royal College of Radiology recommendations

We anticipated that the appropriate application of Wells score would reduce imaging and outpatient management will save 13,574 monthly.

Re-audit after introduction of an ambulatory care pathway for PE showed, 58% of the patients with suspected PE were referred to ambulatory clinic and 100% had scans on the same day. 41% all patients with PE had outpatient management. Introduction of Ambulatory care pathway for PE reduced admissions with a minimum saving of £16,300 over three months.

This Quality Improvement Project incorporated recently published evidence on the safety of outpatient management of PE.

We demonstrated that risk stratification of PE using PESI score and outpatient management is safe and cost effective which could be replicated in other Medical Admission Units.



The Development and Implementation of a Risk Assessment Tool (Labour) For Attending Deliveries on Labour Ward

Hayward R
Neonatal Unit, University Hospital of Wales

Aims:

A recent survey of junior Doctors identified anxieties attending deliveries and uncertainty when to request middle-grade assistance. This audit aimed to identify limitations in the information provided by midwives regarding the progression of labour and the potential for neonatal compromise at delivery.

Methods:

A prospective audit was conducted recording the information volunteered by midwifery staff when requesting the attendance of a Paediatric SHO at deliveries. The audit criteria included:

- Location
- Age (gestational)
- Birth type
- Ongoing concerns (e.g. CTG abnormalities)
- Urgency

Risk factors (e.g. Group B Streptococcus, meconium, maternal pyrexia/tachycardia). These were deemed important in conducting a risk assessment prior to attending a delivery to determine whether senior assistance would be required.

Results:

The information from a total of 50 calls was documented. Of these, 98% provided the location, 82% the birth type and 48% the urgency. Detailed information regarding gestation, CTG traces and risk factors for neonatal compromise were 16%, 18% and 24% respectively.

Following the initial audit, the LABOUR risk-assessment tool was implemented on the delivery suite. The acronym was placed above phones and attached to patient notes. One month after implementation a re-audit of calls to the Paediatric SHO was conducted. The information provided from 50 calls included: location 94%, gestation 60%, birth type 86%, ongoing concerns 57%, urgency 71%, risk factors 60%.

Conclusion:

The LABOUR tool has improved communication of essential information from midwives to junior paediatricians enabling them to determine the potential risk for neonatal compromise at delivery and to ask in advance for senior assistance. The initial study also suggests a reduction in the number of admissions of term babies to the Neonatal Unit from the delivery suite.

WNT10B in Human Adipogenesis

VOYIAS P.D.; Murphy A; Azharian S; Martinez de la Escalera Clapp L; Adaikalakoteswari A; Piya M; McTernan P.G; Tripathi G.

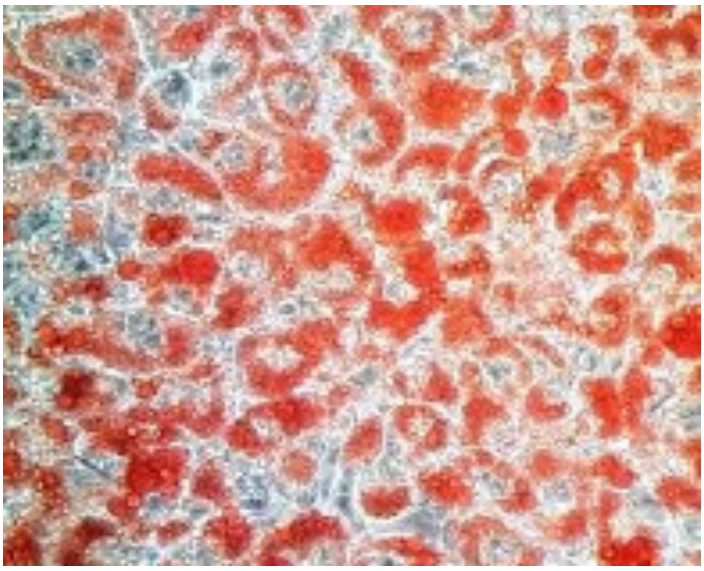
Division of Metabolic and Vascular Health,Warwick Medical School, Clinical Sciences Research Laboratories, University Hospital, Coventry

Background:

Defects in adipogenesis can prevent physiological white adipose tissue (WAT) expansion and safe storage of sugars and lipids, subsequently metabolic diseases such as type II diabetes mellitus can arise. Adipogenesis may present targets to improve nutrient storage and therefore improve metabolic regulation. Wnt10b has been suggested to inhibit adipogenesis via CEBPalpha, however the molecular mechanisms are unknown. Therefore we sought to elucidate the role of Wnt10b in human adipogenesis.

Materials and methods:

Abdominal subcutaneous WAT biopsies were collected from metabolically healthy female subjects: naturally occurring WNT10B-C256Y mutation (non-functional Wnt10b protein, n=1, age 19years, BMI 62kg/m2) and controls (n=3, (mean±SE) age 30.7±4.7years, BMI 21.9±1.2kg/m2). Preadipocytes were extracted, cultured and adipogenesis was induced with a standardised protocol. Adipogenesis was assessed by lipid accumulation, lipolysis, and insulin-stimulated glucose uptake. Adipogenesis regulator and adiponectin genes and Wnt signalling proteins and genes were measured during adipogenesis.



Results:

WNT10B-C256Y cells accumulated significantly more lipid and insulin-stimulated glucose uptake than controls, with the same level of lipolysis. WNT10B-C256Y cells CEBPalpha expression increased throughout adipogenesis whereas the control cells peaked on day 6–10. WNT10B-C256Y cells had significantly lower XBP1s and adiponectin expression compared to control ($P<0.01$). WNT10B-C256Y cells had significantly altered Wnt signalling: higher p-beta-catenin protein ($P<0.05$), a lag in the decrease of WNT10B gene, lower TCF7 ($P<0.05$) and no change in AXIN2 despite an increase in controls ($P<0.01$).

Conclusion:

These results support Wnt10b plays an inhibitory role in adipogenesis via negative feedback to reduce CEBPalpha. Axin2, downstream of Wnt10b, may be the crucial factor to inhibit CEBPalpha. Further investigations are required; however this study has identified Axin2 as a novel potential molecular target for modulating human adipogenesis and metabolic health.