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*Journal of Health Visiting* (Public health)

Wolmsley, R. Use of high fidelity simulation as an effective and acceptable method of training community palliative care specialist nurses: a pilot project.
*BMJ Simulation & Enhanced Technology Learning* (Education and research)

Wood, J. An intervention in a rural community to build social connections and improve family outcomes.
*Journal of Health Visiting* (Public health)

Woodford, H.J. Anticholingergic drugs for overactive bladder in frail older patients: The case against.
*Drugs and Ageing* (Geriatrics)
*Vitamin D: Too much testing and treating?*  
*Clinical Medicine* (Geriatrics)

Woods, D.R. High altitude affects Nocturnal Non-Linear heart rate variability: PATCH-HA Study.
*Frontiers in Physiology* (Cardiovascular)

Wynn, E. Appropriate DOAC dosing: an evaluation for real world cardiology.
*BMJ Heart* (Cardiovascular)

Yarwood, V. Screening for instrumental activities of daily living in Sub-Saharan Africa: A balance between task shifting, simplicity, brevity and training.
*Journal of Geriatric Psychiatry and Neurology* (Geriatrics)
Appropriate DOAC dosing: an evaluation for real world cardiology*  
BMJ Heart  
https://heart.bmj.com/content/104/Suppl_6/A28  
Daniel Ahlert, Emily Wynn, Honey Thomas

Abstract

Introduction Atrial fibrillation (AF) affects 2.4% of the English population. Direct oral anticoagulants (DOACs) are often used to reduce stroke risk. DOACs require dose adjustments according to creatinine clearance (CrCl). We evaluated DOAC prescribing in AF in an acute UK cardiology ward and evaluated whether eGFR can be used as an alternative to CrCl.

Methods We examined all DOAC discharge prescriptions on the cardiology ward at NSECH, Cramlington from Nov 2015-Nov 2016. We retrospectively recorded DOAC dose, serum creatinine and eGFR pre-discharge. Weight was obtained from hospital paper records for those patients with eGFR reflecting a degree of renal impairment. We reviewed notes for patients prescribed apixaban or dabigatran at full dose with eGFR <35 or reduced dose with eGFR >35 and those prescribed rivaroxaban or edoxaban at full dose with eGFR <55 and reduced dose with eGFR >45. For those, CrCl was calculated using the Cockcroft-Gault equation. Summary product characteristics (SPC) dosing guidelines were used to define appropriate dosing.

Results We identified 225 DOAC prescriptions for AF in 168 patients. Whilst the majority of DOAC prescriptions were appropriate, this study identified 11% (25) of discharge DOAC prescriptions for AF did not follow SPC guidelines (figure 1). Full dose DOAC was prescribed inappropriately in 3% (8). The other 8% (16) had inappropriate dose reduction. 55 discharges were identified as reflecting a degree of renal impairment. Comparison of CrCl and eGFR in those 55 discharges found 22% (12) would have over-estimated renal function had eGFR been used to make drug dosing decisions, leading to incorrect prescriptions of the full dose. Similarly renal function would have been under-estimated by eGFR in 13% (7 out of 55) of cases using eGFR alone which would have led to inappropriate reduced dose DOAC.

Conclusion and implications This study reminds clinicians to remain vigilant about DOAC dose modifications. We demonstrated the importance of the CrCl for patients with impaired renal function as the eGFR provides an inaccurate estimate that may lead to inappropriate DOAC dosing. Inappropriate dose reduction appeared more common than inappropriate full dose. This is in keeping with published literature form a US cohort.1 Failure to reduce DOAC doses may increase bleeding without additional efficacy. Inappropriate dose reductions are often carried out to mitigate bleeding risks but is associated with overall worse outcomes.1 Our findings were from a unit with 7 day cardiologist input and dosing errors may be even more frequent in the non-specialist environment. We addressed this by designing educational material for the hospital teams (figure 2).
Hypertension in a resource limited setting: Is it associated with end organ damage in older adults in rural Tanzania?*

The Journal of Clinical Hypertension

Matthew J. Dewhurst, Felicity Dewhurst, William K. Gray and Richard Walker

Abstract
Few data from sub-Saharan Africa exist on the effects of hypertension on the organs of the human body. We aimed to establish the prevalence of hypertensive end organ damage (EOD) in an elderly cohort of Tanzanians. The population aged 70 years and over of 2 villages in northern Tanzania (n = 246), had blood pressure (BP) data available from 2010 and 2013, and underwent in depth follow up for markers of hypertensive EOD in 2016. Assessment included ankle-brachial pressure index, lying-standing BP, electrocardiogram, and mid stream urine dip. Sustained hypertension (those with hypertension at all 3 assessments) was found in 129 (52.4% subjects). Of the entire cohort, 13.9% had left ventricular hypertrophy and 26.4% had peripheral arterial disease, both of which were associated with sustained hypertension, although orthostatic hypotension, stroke, proteinuria, and arterial stiffening were not. Further investigation, particularly in younger age groups, is merited if hypertension-associated morbidity is to be controlled.

Retinal imaging to identify target organ damage in older Africans: a pilot study.*

The Journal of Clinical Hypertension

William K. Gray, Joanna E. Klaptocz and Richard W. Walker

Abstract
By 2030, sub-Saharan Africa is forecast to see the steepest rise in the number of people with hypertension of any world region. Hypertensive retinopathy is known to be a common complication of hypertension in developed countries and some studies suggest it is associated with the presence of other hypertension-related end-organ damage (EOD) such as stroke and cardiovascular disease. In Tanzania hypertension is relatively more common than in other parts of sub-Saharan Africa, especially in the older population; however, the prevalence of hypertensive retinopathy and its association with EOD remain unknown. The authors conducted a cross-sectional study of elderly, community-dwelling, rural Tanzanians to determine the prevalence of hypertensive retinopathy and its association with hypertension and other forms of EOD. Hypertensive retinopathy was diagnosed based on retinal imaging. In a cohort of 61 patients with gradable images, the authors found the overall prevalence of hypertensive retinopathy to be 64% (n = 39), which was strongly associated with hypertension ($X^2 [1] = 4.207, P = .004$), with a significant trend towards more severe retinopathy with more severe hypertension ($r = .377, P = .003$). The authors did not find hypertensive retinopathy to be associated with other forms of EOD. Hypertensive retinopathy is highly prevalent in this population and is associated in most but not all cases with hypertension. These findings do not suggest that it could be used as a screening tool for EOD, but it is important to identify and educate patients with retinopathy about possible complications of the condition.
An update on cardiac implantable electronic devices for the general physician.*
The Journal of the Royal College of Physicians of Edinburgh
https://www.rcpe.ac.uk/sites/default/files/jrcpe_48_2_ripley.pdf
Jennifer Peal, Iain Matthews, Craig Runnett, Honey Thomas and David Ripley

Abstract
Cardiac electronic device implantation is a common and important intervention for patients with tachy- and bradycardia. An increasing number of patients are receiving more complex devices such as cardiac resynchronisation therapy or devices with a de brillation function. Over the last 5 years, two new models of cardiac device have emerged, subcutaneous debrillators and leadless pacemakers. With an ageing population and data demonstrating 2000 per 100,000 of the population aged over 75 years have a cardiac device, it is essential that the general physician remains updated on the common pacemaker indications and available therapies.

High altitude affects Nocturnal Non-Linear heart rate variability: PATCH-HA Study.*
Frontiers in Physiology
David Richard Woods

Abstract
Background: High altitude (HA) exposure can lead to changes in resting heart rate variability (HRV), which may be linked to acute mountain sickness (AMS) development. Compared with traditional HRV measures, non-linear HRV appears to offer incremental and prognostic data, yet its utility and relationship to AMS have been barely examined at HA. This study sought to examine this relationship at terrestrial HA.

Methods: Sixteen healthy British military servicemen were studied at baseline (800 m, first night) and over eight consecutive nights, at a sleeping altitude of up to 3600 m. A disposable cardiac patch monitor was used, to record the nocturnal cardiac inter-beat interval data, over 1 h (0200–0300 h), for offline HRV assessment. Non-linear HRV measures included Sample entropy (SampEn), the short (α1, 4–12 beats) and long-term (α2, 13–64 beats) detrend fluctuation analysis slope and the correlation dimension (D2). The maximal rating of perceived exertion (RPE), during daily exercise, was assessed using the Borg 6–20 RPE scale.

Results: All subjects completed the HA exposure. The average age of included subjects was 31.4 ± 8.1 years. HA led to a significant fall in SpO2 and increase in heart rate, LLS and RPE. There were no significant changes in the ECG-derived respiratory rate or in any of the time domain measures of HRV during sleep. The only notable changes in frequency domain measures of HRV were an increase in LF and fall in HFnu power at the highest altitude. Conversely, SampEn, SD1/SD2 and D2 all fell, whereas α1 and α2 increased (p < 0.05). RPE inversely correlated with SD1/SD2 (r = -0.31; p = 0.002), SampEn (r = -0.22; p = 0.03), HFnu (r = -0.27; p = 0.007) and positively correlated with LF (r = 0.24; p = 0.02), LF/HF (r = 0.24; p = 0.02), α1 (r = 0.32; p = 0.002) and α2 (r = 0.21; p = 0.04). AMS occurred in 7/16 subjects (43.8%) and was very mild in 85.7% of cases. HRV failed to predict AMS.
**Conclusion:** Non-linear HRV is more sensitive to the effects of HA than time and frequency domain indices. HA leads to a compensatory decrease in nocturnal HRV and complexity, which is influenced by the RPE measured at the end of the previous day. HRV failed to predict AMS development.

**Multi-Population Differential Evolution for Retinal Blood Vessel Segmentation**

2018 15th International Conference on Control, Automation, Robotics and Vision (ICARCV)

https://ieeexplore.ieee.org/abstract/document/8581322/authors#authors

Jyoti Jasekar

**Abstract**

The retinal blood vessel segmentation plays a significant role in the automatic or computer-assisted diagnosis of retinopathy. Manual blood vessel segmentation is very time-consuming and requires a great amount of domain knowledge. In addition, the blood vessels are only a few pixels wide and cover the entire fundus image. This further hinders the recent systems from automating the retinal blood vessel segmentation efficiently. In this paper, we propose a modified differential evolution (DE) algorithm to carry out automatic retinal blood vessel segmentation. The modified DE employs cross-communication among multiple populations to select three types of features i.e. thick blood vessels, thin blood vessels and non-blood vessels. Multiple classifiers such as neural networks (NN), Support vector machines (SVM), NN based and SVM based ensembles are used to further measure the performance of segmentation. The proposed algorithm is evaluated on three publicly available retinal image datasets like DRIVE, STARE and HRF. It outperformed the state-of-the-art with a high average accuracy of 98.5% along with high sensitivity and specificity.
Development of an international undergraduate curriculum for delirium using a modified Delphi process.*
James Fisher

Abstract
**Background:** delirium is a medical emergency affecting approximately 30% of hospitalised older patients. Recent work examining UK undergraduate medical curricula highlighted inconsistencies in the delivery of teaching on delirium. The aim of this project was to develop consensus agreement on a delirium curriculum for medical undergraduates.

**Methods:** a modified Delphi process was used to determine consensus amongst experts in an iterative manner. Experts at the European Delirium Association Conference (London, 2015) were invited to participate. Participants were asked to consider: (i) What should be taught? (ii) How should teaching be delivered? (iii) Who should deliver the teaching? (iv) Where should the teaching be delivered? (v) When should the teaching be delivered? Delphi rounds continued until consensus on curriculum content (defined as 80% agreement) was achieved.

**Results:** consensus was reached after three rounds. A recurrent theme was the need to involve patients, families and carers to help drive attitudinal change. The final curriculum, along with data pertaining to agreement with each curriculum item during the Delphi process, is presented.

**Conclusion:** this Delphi process enabled an international group of experts from a broad range of specialties, to reach consensus agreement on the components of an undergraduate curriculum for delirium. The curriculum represents an important step in the development of delirium education within medical training. Despite competing demands of increasingly crowded undergraduate curricula, delirium, given its relevance to 21st century healthcare, must be prioritised. We call on Medical Schools to consider integrating this delirium curriculum into their degree programmes.

Primary care emergencies: a multidisciplinary simulation programme
Nichola Jenkins, Philippa Male, James McFetrich and Mark Sudlow

Abstract
**Background** Northumbria Primary Care (NPC) is an innovative collaboration between seven General Practices and Northumbria Healthcare NHS Foundation Trust (NHFT), serving a population of 45 000 patients. With the aim of increasing confidence in management of infrequently occurring medical emergencies in primary care, a shared simulation programme for the multidisciplinary team was developed at the Dinwoodie Assessment and Simulation Hub (DASH) within NHFT.
Summary of education programme A programme was developed based on commonly occurring waiting room emergencies including anaphylaxis to a vaccine, meningococcal sepsis in a baby, and myocardial infarction leading to a cardiac arrest. Each attendee undertook a confidence-rating questionnaire prior to and following simulation. The stations were designed to be environmentally and situationally realistic to the typical primary care environment. Available equipment mirrored that which is available in primary care and required the multi-disciplinary team to work together to manage the patient’s condition in real time until paramedics arrived.

Summary of results A total of 31 primary care staff attended this session including receptionists (n=5), practice nurses (n=9), managerial staff (n=5), general practitioners (n=7) and nurse practitioners (n=5). Pre- and post- simulation responses were compared using Student's T test. Results were analysed in two categories: ‘All staff’ and ‘Clinical staff only’. Within ‘All staff’ there was a statistically significant change in 3 domains: confidence in managing emergencies in the GP practice (p<0.0001); understanding role in the team managing emergencies (p<0.01), and awareness of protocols relating to common emergencies (p<0.05).

There was no statistically significant change in confidence using medication in emergencies. In contrast, results in the 'Clinical staff only' category show statistically significant changes in all four domains (p<0.0001–0.01). Qualitative data gathered through free text feedback from participants emphasized the value of interactivity, team-working and realism in support of the learning process.

Discussion, conclusions and recommendations The session was well received by staff with reassuring results showing improved confidence in all areas considered. Two outcomes of this programme were particularly beneficial. Firstly, non-clinical staff recognised the crucial role they play in the management of emergencies in the GP setting. Secondly, this learning experience demonstrated the need to standardise the availability of medical equipment within the NPC.

We recommend that other primary care organisations consider the use of simulation in training their staff to manage emergencies.

Saving Trevor: emergency physiotherapy
BMJ Simulation & Technology Enhanced Learning
https://stel.bmj.com/content/4/Suppl_2/A27.2
Karen Brewin, Elizabeth Hardingham, Greg Mavin, David Rowe, Suzanne Saxton and Michael Simpson

Abstract
Background All Trusts providing acute medical and surgical services should ensure patient access to physiotherapy 24 hours a day, seven days a week. The service should be staffed by physiotherapists who have competency ensured through a combination of theoretical and practical application of clinical reasoning and clinical skills.1 In 2017, Northumbria Healthcare NHS Foundation Trust introduced simulation training to the physiotherapists who work emergency on-call.
Summary of education programme or project

We designed small group simulation training based on real-life cases that challenge clinical reasoning skills and combine theory with practical application. With a shielded Sim-Man controller and facilitator in the room, staff are provided with medical histories and asked to assess patients. Patient diagnoses include Chronic Obstructive Pulmonary Disease, Pneumonia, Lung Cancer, Pulmonary oedema, Bronchiectasis, Obesity Hypoventilation Syndrome, post-operative hemicolecotomy and fractured ribs. Cases include ventilated and non-ventilated patients. Assessment skills include interpretation of vital signs, auscultation, assessing Glasgow Coma Scale (GCS) score, assessing cough strength and arterial blood gas interpretation. Staff are facilitated to formulate problem lists and treatment plans. Treatment skills include manual and mechanical methods to decrease work of breathing, aid sputum retention, increase lung volume and improve type I and type II respiratory failure. Medical device competencies are assessed using positive pressure devices, suction, insertion of oro-pharyngeal and naso-pharyngeal airways, taking arterial blood gases, administering oxygen therapy and tracheostomy management. Physiotherapists respond to deteriorating patients including changes to vital signs, auscultation, cough, and GCS. Communication with the Sim-Man is encouraged to practice important communication skills with acutely unwell patients. After each case, Faculty staff meet to discuss additional themes that have emerged during Simulation that need adding to the prepared debrief session. This opportunity is also used for trainee reflection on their own performance, to provide positive feedback to staff and to improve confidence in their competence.

Summary of results

We introduced 48 physiotherapists to simulation training for emergency on-call preparedness. All physiotherapists reported the training to be good or better, and found the combination of theory and practical application a beneficial learning environment. Further simulation training was requested.

Discussion, conclusions and recommendations

Simulation training has introduced a new, realistic and challenging learning environment for physiotherapists who treat acutely unwell patients. Practising real life cases in a safe and supportive environment prepares staff for the real life challenge of on-call working. Future Simulation training will include human factors within scenarios.

Use of high fidelity simulation as an effective and acceptable method of training community palliative care specialist nurses: a pilot project.

BMJ Simulation & Technology Enhanced Learning

https://stel.bmj.com/content/4/Suppl_2/A59.3

Rowan Wolmsley and Deepta Churm

Abstract

Background In Northumbria we have set up a new team of rapid response community Specialist Palliative Care nurses. New team members with varying experience in this role have been appointed, identifying various educational needs to develop new skills. We undertook this pilot project to establish whether these needs could be met through training using high-fidelity simulation. Simulation training has been described extensively in many settings but, to our knowledge, not in this context.
Summary of Work
Three palliative care scenarios (assessment of bowel obstruction, chest infection and a dying patient) were developed using a high-fidelity manikin in a simulation suite replicating a patient's home. These scenarios are ones which arise commonly, and address identified learning outcomes. The scenarios were deliberately chosen to replicate the complexities encountered by nurses as part of their roles, including clinical assessment, examination, decision making and communication. 4 study days were undertaken with 3 nurses on each occasion. Each led on a scenario, whilst the other 2 observed. A debrief followed. The nurses completed evaluation forms on their confidence levels before and after the study day, how realistic the scenarios were, how helpful they found the debrief and whether they would recommend this type of learning experience to their colleagues. They could also provide free text comments.

Results
The majority of participants strongly agreed that the cases were a realistic representation of those that they encounter in their usual practice. 10 of the 12 participants felt that their confidence in managing these scenarios had improved following the simulation study day. The remaining 2 participants felt their confidence was the same which they rated as ‘good’ (4/5 on Likert scale). All participants either strongly agreed or agreed that they felt more confident at managing these scenarios for real. 10 out of 12 participants strongly agreed that the debrief was helpful, and that they would recommend this style of teaching to their colleagues. Free-text comments were generally very supportive of this method of teaching, with little that candidates would like to change about the training days.

Conclusions
Simulation training for specialist palliative care nurses is an effective and acceptable method of training. Simulation training is an effective method to simulate community scenarios.

Recommendations
Simulation can be used in the training of community specialist palliative care nurses.

Flying sim: interprofessional in situ simulation
BMJ Simulation & Technology Enhanced Learning
https://stel.bmj.com/content/4/Suppl_2/A29.2
Sharon Hartley

Abstract
Background
Flying Sim is an interprofessional simulation training course delivered in situ which is aimed at developing the assessment and management of the acutely unwell patient and improving interprofessional working and communication in a realistic environment. Flying sim was developed to meet the increasing demand for interprofessional learning within undergraduate medical education and Northumbria Healthcare NHS Foundation Trust (NHCFT) work force.

Summary of education programme or project
Flying sim was run 15 times over a 4 month period. Outcomes were agreed and developed in partnership with educational leads for the participating disciplines. The outcomes were split into 2 categories: ‘Clinical outcomes’ and ‘Interprofessional Outcomes’. Participants included undergraduate medical students (42) and nursing students (15); postgraduate nurses (8), and allied healthcare professionals (AHP) (18). A simulated patient was chosen to use for the sessions to add realism and gain a patient perspective.
Summary of results Participants (83) were asked to give free-text feedback directly after each session and complete an anonymous survey using Survey Monkey 1 week later. This enabled us to evaluate their interprofessional experience and the impact of in situ learning on their day-to-day work. The survey consisted of 8 questions and free-text feedback. Of the participants who responded, (82%) stated that attending interprofessional in situ training supported them in their job, and (88%) either ‘strongly agreed’ or ‘agreed’ that shared learning helped them understand other professional roles better. Free-text feedback was mostly very positive with some suggestions for further improvement.

Discussion, conclusions and recommendations Early results show there is a need for in situ interprofessional simulation; it is relevant to clinical roles, and increases understanding and appreciation of the roles of other disciplines. Results would have been more reliable if all participants responded to the survey and more specific questions were posed. The course has been embedded in the 5th year undergraduate medical education timetable. However, we need to consider how to develop a committed faculty from other disciplines in order to sustain and develop future Flying Sim courses. Expressions of interest from other directorates suggest there is scope to develop easily accessible interprofessional training further, which will require further support and on-going commitment from the Trust and clearly identified interprofessional educational leads. Future sessions will aim to incorporate the simulated patient’s feedback in order to gain a patient perspective.

Sim-man to NIV-man
BMJ Simulation & Technology Enhanced Learning
https://stel.bmj.com/content/4/Suppl_2/A37.1
Karen Brewin and Stephen Bourke

Abstract
Background A National Confidential Enquiry into Patient Outcome and Death (NCEPOD) for NIV (Non-Invasive Ventilation) was conducted in response to excess UK mortality.1 Independent case-review showed management of NIV was less than good in 73% of cases. The British Thoracic Society Quality Standards for acute NIV advise that staff who provide NIV have evidence of training and competency.2 The Northumbria Healthcare NHS Foundation Trust NIV service was presented as an exemplar of good practice at the NCEPOD report launch. Since 2004 staff delivering NIV have completed NIV training and competency assessment. In 2017 this was enhanced with the introduction of simulation training.

Summary of education programme or project Small group training, combining theory and practical training with challenging real-life cases, addressing essential aspects of good practice. Trainees are given the clinical history for each scenario. The Sim-man operator is concealed, but adjusts response depending on trainees’ actions and communicates with the facilitator in the room. Trainees are facilitated to follow local NIV guidelines, ask for early escalation of care decisions, and respond to early warning scores and changes in vital signs. Decisions about initiation and monitoring of NIV are scrutinised. Key skills of successful NIV including communication and mask fitting are incorporated. Trainees respond to deteriorating patients including hypotension, worsening hypercapnia and secretion retention and practice auscultation, insertion of naso-pharyngeal and oro-pharyngeal airways, suction and taking arterial blood gases.
As part of debriefing each case afterwards, key messages are discussed. Trainees are encouraged to complete accurate documentation regarding initiation of NIV and review detailed competencies of theoretical knowledge and practical skills.

**Summary of results** In 2017, we asked for feedback to evaluate the simulation sessions. Quantitative feedback reported that 100% (n=48) of physiotherapists felt that mixing theory and practical application benefited their training. Ninety-four per cent reported that the training was very good and 6 per cent good. Qualitative comments by the trainees included that they enjoyed the simulation training, they liked small groups with varied experience, found it a supportive environment, it was useful to experience uncommon clinical situations, and they would like more regular simulation training.

**Discussion, conclusions and recommendations** Compared to pre-existing training, use of simulation provides a more realistic experience of challenging real-life cases, and assessment of trainees’ response to anticipated and unexpected clinical change. Trainees can practice clinical assessment and treatment skills, decision making and problem solving within a safe environment.

**Nu2Sim simulation training increases knowledge and confidence with new to simulation users.**

BMJ Simulation & Technology Enhanced Learning

[https://stel.bmj.com/content/4/Suppl_2/A41.2](https://stel.bmj.com/content/4/Suppl_2/A41.2)

**John Stratford and Nichola Jenkins**

**Abstract**

**Introduction** At Northumbria, we run a Simulation Faculty development course which is aimed at those who are already involved in simulation teaching. We identified that there was a lack of training for those new to simulation who would like to be part of a faculty but have little or no knowledge about simulation and the technology used. NU2Sim offers familiarisation to the manikins; the set up and equipment; exploration of the software; scenario set up and how to achieve basic programming. Nu2Sim was offered to Inter-professional learners and was intended to enable them to feel more confident and get the best out of simulation based training and education.

**Methods** Three courses were run over a period of three months to a variety of allied health professionals (AHP’s) new to simulation. The aims were to introduce attendees to simulation and explore the technology in easy steps and to enable them to utilise the manikins and understand the software that would allow them to get the most out of their scenarios. The participants completed evaluation forms to compare confidence and knowledge before and after the course.

**Results** A Likert scale of 1–5 was used for four questions and free text comments were encouraged. Pre-course, most participants rated their knowledge of simulation manikins; software; programming themes and confidence using simulation based teaching from 1–3 (‘very poor’, ‘poor’ or ‘neutral’) and post-course from 4–5 (‘good or ‘very good’). Free text comments were generally very positive and supportive for the need of this course. Very few changes were suggested.
Discussion and Conclusions  More concise results would be gained from more participants attending, short notice cancellations due to clinical needs reduced numbers. There is a need for Nu2Sim as it has shown that it increases knowledge and confidence in simulation based education and helps reduce fears, doubts or misconceptions regarding simulation, therefore enhancing the learning/teaching experience. How do we retain previous participants as members of future faculty?

Recommendations  Nu2Sim will be planned well in advance with reminders in the hope of reducing late cancellations. We need to encourage Nu2Sim participants to develop further skills, join simulation faculty and utilise training.

Guideline review: Epinephrine use in anaphylaxis (AAP guideline 2017).*
ADC Education & Practice Edition
https://ep.bmj.com/content/early/2018/11/14/archdischild-2017-314592
Nicola Goodall

Abstract
Background  Anaphylaxis is a severe, life-threatening, hypersensitivity reaction, which can progress rapidly and may cause death. The UK incidence was shown to increase over a 20-year period from 1992 to 2012, with a rise from one to seven cases arising in 1 year, per 100 000 population.1 However, anaphylaxis is not always appropriately recognised and so the true incidence is likely to be underestimated. Clinical presentation varies and can differ in the same patient from one episode to another. Cutaneous manifestations occur in 80%–90% of children, respiratory involvement in 60%–70% and cardiovascular compromise is less common, with 10%–30% of children being affected.
Complex decision making in medical training: key internal and external influences in developing practical wisdom.*

Medial Education


Paul Paes

Abstract

Context

Good judgement and the ability to make complex decisions are key attributes of a skilled professional. There has been limited study of doctors and their decision making, particularly in relation to making complex decisions. The study aims were to understand how trainee doctors develop practical wisdom through investigating their approach to difficult decision making, understanding the influences on the development of practical wisdom, and identifying potential interventions that may help develop this further.

Methods

Constructing an understanding of the process of developing practical wisdom was analysed within a social constructivist frame. The study investigated trainee doctors at different stages of their careers. Qualitative semi-structured interviews were used to explore the approaches doctors take to difficult decision making, as well as the key training influences in learning these skills. Constant comparative analysis was carried out within a grounded theory approach.

Results

Key elements emerged from the data regarding the doctors themselves and the environments they worked in that assisted in developing decision making. This led to the construction of a conceptual model setting out the development of practical wisdom among trainee doctors. The model describes a process of gaining experience in decision making, moderated by key external and internal influences. The important roles of self-efficacy and agency (relational) are highlighted as key enablers of the process.

Discussion

The implications of this model are considered in relation to postgraduate training of doctors. The importance of training doctors to be self-regulated learners in learning environments that support their development is highlighted. Aspects of the clinical learning environment (structure) such as rotation structures, the culture, supervision and feedback can all be enhanced. Self-efficacy and relational agency, alongside other internal influences, are key factors in accelerating development of practical wisdom. Other studies have shown that these factors can be improved with targeted interventions.
To stent or not to stent in malignant large bowel obstruction*
Gut
http://gut.bmj.com/content/67/Suppl_1/A194.1
Alasdair Woodward Mayer, Sarah J. Mills, Mumtaz Hayat

Abstract
Introduction: Self expanding metallic stents (SEMS) can resolve obstruction due to colorectal cancer (CRC), enabling subsequent elective rather than emergency surgery. This study compared the outcomes after stenting and subsequent elective surgery versus emergency surgery (ES) for obstructing CRC.

Methods: Prospectively collected data from a consecutive series of 153 patients with large bowel obstruction secondary to CRC, presenting to a single NHS Trust from April 2010 to March 2017, were retrospectively analysed. Of these, 41 (26.8%) had stenting as a bridge to surgery (SBTS) followed by elective surgery and 112 (73.2%) had ES. Primary outcomes were mortality rates after surgery at 30 days, 90 days and 1 year. Secondary outcomes were the rates of stoma formation and anastomotic leak (both clinical and radiological).

Results: Thirty-day mortality was 7.3% with SBTS and 12.5% with ES. Ninety-day mortality was 7.3% with SBTS and 17.9% with ES. One-year mortality was 19.5% with SBTS and 32.1% with ES. The anastomotic leak rate was 7.1% with SBTS and 14.0% with ES. The rate of stoma formation was 39.0% with SBTS and 33.0% with ES. With cancers proximal to the splenic flexure excluded, stoma rates were 38.5% with SBTS and 54.2% with ES.

Conclusions: Without adjustment for confounding variables superiority of SBTS over ES cannot be inferred. But these results suggest SBTS can be a safe alternative to ES and may offer advantages in respect of stoma and leak rates.

The current law of diminishing returns with lower gastrointestinal imaging.*
International Journal of Surgery
https://www.journal-surgery.net/article/S1743-9191(18)30949-X/fulltext
A.M.A. Mohammed, Y.M. Aawsaj, M.D. Bradburn, S.J. Mills

Abstract
Aims: to investigate whether the increase in lower gastrointestinal (LGI) tract imaging changed a single NHS Trust’s ascertainment of diagnosed colorectal cancers (CRC), proportion of cases presenting as an emergency, stage at diagnosis and crude survival.

Methods: a retrospective analysis of a prospectively populated dataset of all CRC cases diagnosed between 1/4/10—31/3/17, correlated against the number of colonoscopy, flexible sigmoidoscopy and CT colonography (CTC) performed during the same period; using Pearson’s correlation coefficient. Survival was compared using Kaplan Meyer analysis.
The successful implementation of fast-track routine testing for microsatellite instability in a colorectal cancer pathway.*
Gut
https://gut.bmj.com/content/67/Suppl_1/A196.2
Wee Sing Ngu and Sarah Mills

Abstract
Introduction: The National Institute for Health and Care guidelines (DG27, Feb 2017) recommend that all patients with colorectal cancer (CRC) should undergo testing for deficient deoxyribonucleic acid (DNA) mismatch repair activity, whose by-product is microsatellite instability (MSI) in DNA. Historically in our trust, MSI testing was done infrequently, in selected high-risk patients, on preserved pathology specimens and with a long wait for results. A new patient care pathway incorporating MSI testing on fresh biopsy tissue with a rapid turnaround time was introduced in January 2017. This service evaluation reviewed performance in the first year of this new pathway.

Methods: Endoscopists were asked to send an additional fresh biopsy for MSI assay at endoscopic diagnosis of significant neoplasia from January 2017. Data for all patients newly diagnosed with CRC between 1st Jan 2017 to 31st December 2017 were exported from a prospectively populated database.

Results: A total of 374 patients were identified, median age 72 (range 30–96) of whom 226 (60.4%) patients were diagnosed at endoscopy. One hundred and ninety-one (51.1%) of all patients had MSI assays performed, 142 (62.8%) of those endoscopically diagnosed. Twelve (6.3%) of the patients tested were MSI-high. Median time from submission of sample to result was 13 days (range 3–32).

Conclusions: Compliance with MSI testing at endoscopic diagnosis is not yet 100%, but this study illustrates that the MSI test can be integrated into the patient care pathway in an NHS setting and used to personalise patient care as turn-around times are sufficiently short for the results to be integrated into pre and post-operative multidisciplinary team meeting discussions.
Prevalence of frailty in older community-dwelling Tanzanians according to comprehensive geriatric assessment.*
Journal of the American Geriatrics Society
Emma G. Lewis, Kate Howorth, Catherine Dotchin, William Gray and Richard Walker

Abstract
Objectives: To investigate the prevalence of frailty using a Comprehensive Geriatric Assessment (CGA) in older community-dwelling adults living in rural northern Tanzania.

Design: Cross-sectional survey.

Setting: Five randomly selected villages in Hai District, Kilimanjaro region, Tanzania.

Participants: All adults aged 60 and older living in the selected villages were eligible to participate, including older adults with cognitive impairment provided a close relative was able to assent on their behalf. All participants were community dwelling because institutionalization is very rare.

Measurements: Participants were screened using a short frailty screening tool, the Brief Frailty Instrument for Tanzania (B-FIT), comprising an abbreviated test of cognitive function and the Barthel Index, which assesses functional independence. Based on B-FIT score, a frailty-weighted, stratified sample was selected for in-depth assessment using CGA and characterized as frail or not frail.

Results: Two hundred thirty-six CGAs were performed in 1,207 people screened, 91 of whom were deemed frail. After adjusting for stratification, the prevalence of frailty was 19.1% (95% confidence interval=15.2–23.1).

Conclusion: This is the first study in sub-Saharan Africa to report the prevalence of frailty in community-dwelling older adults according to a CGA. The strengths of reporting frailty according to a CGA include the ability to consider likely medical diagnoses based on clinical assessment and to assess individuals' social circumstances and environment.
Journal of Geriatric Psychiatry and Neurology

Abstract
Background: Task shifting has been suggested as one way to help manage the increasing burden of dementia in sub-Saharan Africa (SSA). However, brief, easy-to-use and valid screening tools are needed to support this approach. Our team has developed an 11-item questionnaire to assess instrumental activities of daily living (IADLs) in SSA, the Identification and Intervention for Dementia in Elderly Africans (IDEA)-IADL questionnaire. We aimed to externally validate the questionnaire and develop a shorter, more efficient version.

Methods: A community-based sample of 329 older adults in 4 rural villages was screened for dementia using the validated IDEA cognitive screen and the 11-item IDEA-IADL questionnaire. A stratified sample was assessed for Diagnostic and Statistical Manual of Mental Disorders (Fourth Edition) dementia by a United Kingdom-based doctor, who was blinded to the results of screening. Area under the receiver operating characteristic (AUROC) curve analysis was used to assess validity, and factor analysis and regression modeling were used to develop a shorter version of the questionnaire.

Results: A 3-item IDEA-IADL questionnaire was developed and externally validated in the study sample. The questionnaire was deemed to be valid and enhanced screening performance in 2 villages (AUROC: 0.857 and 0.895) but detracted from the accuracy of the IDEA cognitive screen in the other 2 villages (AUROC: 0.591 and 0.639). These differences appeared to be due to differences in interpretation of responses to questions by the assessors.

Conclusions: A brief IDEA-IADLs scale was developed and worked well in some villages. However, our study highlights a training need if brief screening tools to assess IADLs are to be effectively used by nonspecialists in low-resource settings.
A longitudinal study of cognitive decline in rural Tanzania: rates and potentially modifiable risk factors.

Stella-Maria Paddick, William K. Gray, Catherine L. Dotchin and Richard W. Walker

Abstract
Background: The number of people living with dementia in sub-Saharan Africa (SSA) is expected to increase rapidly in the coming decades. However, our understanding of how best to reduce dementia risk in the population is very limited. As a first step in developing intervention strategies to manage dementia risk in this setting, we investigated rates of cognitive decline in a rural population in Tanzania and attempted to identify associated factors.

Methods: The study was conducted in the rural Hai district of northern Tanzania. In 2014, community-dwelling people aged 65 years and over living in six villages were invited to take part in a cognitive screening program. All participants from four of the six villages were followed-up at two years and cognitive function re-tested. At baseline and follow-up, participants were assessed for functional disability, hypertension, and grip strength (as a measure of frailty). At follow-up, additional assessments of visual acuity, hearing impairment, tobacco and alcohol consumption, and clinical assessment for stroke were completed.

Results: Baseline and follow-up data were available for 327 people. Fifty people had significant cognitive decline at two-year follow-up. Having no formal education, low grip strength at baseline, being female and having depression at follow-up were independently associated with cognitive decline.

Conclusions: This is one of the first studies of cognitive decline conducted in SSA. Rates of decline at two years were relatively high. Future work should focus on identification of specific modifiable risk factors for cognitive decline with a view to developing culturally appropriate interventions.

Anticholingeric drugs for overactive bladder in frail older patients: The case against.

Henry J. Woodford

Abstract
Urinary incontinence (UI) is a common and disabling problem among older people. Anticholinergic drugs (ADs) are a pharmacological option recommended for overactive bladder or mixed UI when non-pharmacological approaches have failed. However, UI is a more prevalent and complex condition in frail older people and to simply assume that AD actions are the same across all age groups would be wrong.
This article reviews evidence for the efficacy and safety of these drugs, especially when prescribed for frail older people. Although ADs have a small but statistically significant benefit for UI in non-frail people, the vast majority choose to discontinue treatment because they feel that the beneficial effects do not outweigh the burden of taking the medication. Not only are the most frail older people more likely to experience adverse effects but there is also no evidence that these drugs are effective for UI. In addition, there is a mounting body of evidence that they impair cognitive function. The continued use of ADs in frail older people simply does not hold water.

Vitamin D: Too much testing and treating?*
Clinical Medicine
http://www.clinmed.rcpjournal.org/content/18/3/196.short
Henry J. Woodford, Scott Barrett and Stewart Pattman

Abstract
There is clinical uncertainty as to the testing of serum 25–Hydroxy vitamin D (25[OH]D) concentrations and when to use high-dose supplementation. Data show that there has been a rapid increase in the number of tests performed within the Northumbria Healthcare NHS Foundation Trust over the past 8 years and an increase in high-dose supplementation over the past 5 years. We performed a retrospective analysis of the 25 (OH)D test requests over the period from January to October 2017. A total of 17,405 tests were performed in this time period. The overall average concentration was 57.5 nmol/L and this figure was similar across age groups, although a larger proportion of patients aged over 75 had a concentration <25 nmol/L. Test requests were classified into ‘appropriate’, ‘inappropriate’ and ‘uncertain’ categories based on current expert opinion. We found that between 70.4% and 77.5% of tests could be inappropriate, depending on whether the ‘uncertain’ categories of falls and osteoporosis are considered to be justified. Tiredness, fatigue or exhaustion was the reason for testing in 22.4% of requests. We suggest that a more rational approach to testing, and subsequent treating, could lead to reductions in costs to the healthcare system and patients.

Managing dementia in rural Nigeria: feasibility of cognitive stimulation therapy and exploration of clinical improvements.
Aging & Mental Health
https://www.tandfonline.com/doi/abs/10.1080/13607863.2018.1484883
Stella-Maria Paddick, William K. Gray, Richard W. Walker and Catherine L. Dotchin

Abstract
Objectives: We investigated the feasibility and clinical impact of a psychosocial intervention, Cognitive Stimulation Therapy (CST), to help manage dementia in a rural setting in Nigeria.

Method: People with dementia were identified from a prevalence study in Lalupon in the south-west of Nigeria Prior to this feasibility study CST was adapted for the setting and pilot by our team. Fourteen sessions of CST were provided over a 7-week period by a trained nurse specialist and occupational therapist. Change in quality of life was the main outcome.
**Results:** Nine people were enrolled in CST. Significant improvements in cognitive function, quality of life (physical, psychosocial and environmental domains), physical function, neuro-psychiatric symptoms and carer burden were seen.

**Conclusions:** CST appears to be feasible in this setting, although adaptation for low literacy levels, uncorrected visual and hearing impairment and work and social practices is needed. The clinical improvements seen were encouraging.

**Tackling dementia in Tanzania.**
Old Age Psychiatrist
https://www.rcpsych.ac.uk/pdf/Old-Age-Faculty-newsletter-September-2018.pdf#page=38
William K. Gray, Catherine L. Dotchin and Richard W. Walker

**Abstract**

*Why Tanzania?* Our UK-based team are from Northumbria Healthcare NHS Foundation Trust and Newcastle University in north-east England and became interested in the health of people in Tanzania in the 1990s through the Tanzanian Adult Morbidity and Mortality Project in which Newcastle University was a partner. The project sought to monitor the health of the population of three representative demographic surveillance sites (DSS) within the country. One site, Hai district DSS, in the north of the country on the lower slopes of Mount Kilimanjaro has become the focus of our work over the last 20 years, with studies of stroke mortality, prevalence and incidence and prevalence of Parkinson’s disease, hypertension, atrial fibrillation, neurological disorders, frailty and epilepsy, amongst others. This work has been supported by dedicated teams in Tanzania and the UK and a range of funders.

**African Outreach.***
British Geriatrics Society
https://www.bgs.org.uk/resources/african-outreach
Richard Walker

**Abstract**

My first experience of working in Africa was as a registrar before I had commenced higher training in geriatrics. Having always been interested in working in low and middle income countries (LMICs), I undertook the Diploma in Tropical Medicine and Hygiene (DTM&H) at the Liverpool School of Tropical Medicine (LSTM) in 1989 and having learnt all about infectious diseases, and nothing about non-communicable disease in the tropics, took up a post as senior medical registrar employed by ODA (Overseas Development Administration) in the Royal Victoria Hospital (RVH), Banjul, The Gambia.
The prevalence and characteristics of frailty by frailty phenotype in rural Tanzania.

BMC Geriatrics


Emma Grace Lewis, Kate Howorth, William Gray, Richard Walker and Catherine Dotchin

Abstract

Background

The frailty phenotype is defined by the presence of three from the following five clinical features: weakness, slow walking speed, unintentional weight loss, exhaustion, and low physical activity. It has been widely applied in different research and clinical contexts, including across many low and middle-income countries. However, there is evidence that the operationalisation of each component of the frailty phenotype significantly alters its characteristics and predictive validity, and care is needed when applying the phenotype across settings. The study's objective was to operationalise the frailty phenotype in a rural Tanzanian population of older community-dwelling adults.

Methods

Consenting adults aged ≥60 years, and resident in five randomly selected villages of Hai district Demographic Surveillance Site, were eligible to participate in this cross-sectional study. From a screened sample of 1207 older adults, 235 were randomised and consented to an assessment of their frailty status by the frailty phenotype. Trained research fieldworkers (Tanzanian medical doctors and nurses) carried out measurements and questionnaires at local village centres or at participants' homes.

Results

The prevalence of the frailty phenotype, calculated from complete data for 196 participants, was 9.25% (95% CI 4.39–14.12) When missing data were counted as meeting frailty criterion (i.e. missing due to inability to perform an assessment), the prevalence increased to 11.22% (95% CI 7.11–15.32). Frailty by phenotype criteria was more common in older age groups, and was associated with self-assessed poor health and depression symptoms.

Conclusions

Frailty can be successfully estimated using the frailty phenotype, however there are challenges in its operationalisation cross-culturally. Further work is needed to explore the potential clinical application of the frailty phenotype in such settings.
A longitudinal, observational study of the features of transitional healthcare associated with better outcomes for young people with long-term conditions.*

BMC Medicine


Allan Colver and Gail Dovey-Pearce

Abstract

Background

Most evidence about what works in transitional care comes from small studies in single clinical specialties. We tested the hypothesis that exposures to nine recommended features of transitional healthcare were associated with better outcomes for young people with long-term conditions during transition from child-centred to adult-oriented health services.

Methods

This is a longitudinal, observational cohort study in UK secondary care including 374 young people, aged 14–18.9 years at recruitment, with type 1 diabetes (n = 150), cerebral palsy (n = 106) or autism spectrum disorder with an associated mental health problem (n = 118). All were pre-transfer and without significant learning disability. We approached all young people attending five paediatric diabetes centres, all young people with autism spectrum disorder attending four mental health centres, and randomly selected young people from two population-based cerebral palsy registers. Participants received four home research visits, 1 year apart and 274 participants (73%) completed follow-up.

Outcome measures were Warwick Edinburgh Mental Wellbeing Scale, Mind the Gap Scale (satisfaction with services), Rotterdam Transition Profile (Participation) and Autonomy in Appointments.

Results

Exposure to recommended features was 61% for ‘coordinated team’, 53% for ‘age-banded clinic’, 48% for ‘holistic life-skills training’, 42% for ‘promotion of health self-efficacy’, 40% for ‘meeting the adult team before transfer’, 34% for ‘appropriate parent involvement’ and less than 30% for ‘written transition plan’, ‘key worker’ and ‘transition manager for clinical team’.

Three features were strongly associated with improved outcomes. (1) ‘Appropriate parent involvement’, example association with Wellbeing (b = 4.5, 95% CI 2.0–7.0, p = 0.001); (2) ‘Promotion of health self-efficacy’, example association with Satisfaction with Services (b = −0.5, 95% CI −0.9 to −0.2, p = 0.006); (3) ‘Meeting the adult team before transfer’, example associations with Participation (arranging services and aids) (odds ratio 5.2, 95% CI 2.1–12.8, p < 0.001) and with Autonomy in Appointments (average 1.7 points higher, 95% CI 0.8–2.6, p < 0.001).

There was slightly less recruitment of participants from areas with greater socio economic deprivation, though not with respect to family composition.

Conclusions

Three features of transitional care were associated with improved outcomes. Results are likely to be generalisable because participants had three very different conditions, attending services at many UK sites. Results are relevant for clinicians as well as for commissioners and managers of health services. The challenge of introducing these three features across child and adult healthcare services, and the effects of doing so, should be assessed.
Audit of PCSK9 inhibitor prescribing in the North East of England.
Atherosclerosis Supplements
Stewart Pattman

Abstract

Introduction: Technology appraisal guidance on use of PCSK9 inhibitor (PCSK9i) therapy for treating primary heterozygous familial hypercholesterolaemia (FH) or mixed dyslipidemia (non-FH) in adults was published by the National Institute for Health and Care Excellence (NICE) in June 2016. TA393 and TA394 for Alirocumab and Evolocumab respectively laid out the recommendations and specific thresholds for patients with FH with or without CVD and non-FH or mixed dyslipidemia with CVD to be eligible.
Does duration of pain at baseline influence clinical outcomes of low back pain patients managed on an evidence-based pathway?
Spine
https://journals.lww.com/spinejournal/Citation/2018/09010/
Does_Duration_of_Pain_at_Baseline_Influence.12.aspx
Diarmaid Ferguson

Abstract

Objective. To investigate the association between the duration of pain at baseline and the clinical outcomes of patients with low back pain (LBP) enrolled on the North East of England Regional Back Pain and Radicular Pain Pathway (NERBPP).

Summary of Background Data. The NERBPP is a clinical pathway based upon National Institute for Health and Care Excellence (NICE) guidelines (2009) for LBP of <1-year duration. Recent changes to NICE guidelines (2016) advocate the same management for all LBP patients regardless of pain duration.

Methods. Patients with LBP referred onto the NERBPP by their General Practitioner between May 2015 and January 2017 were included. Data from 667 patients, who provided pre- and post data for pain (Numerical rating scale), function (Oswestry Disability Index), quality-of-life (EuroQol five-dimension, five-level questionnaire), anxiety (the Generalized Anxiety Disorder Screener), and depression (the Patient Health Questionnaire), were analyzed using a series of covariate-adjusted models. Patients were categorized into four groups based upon baseline pain duration: <3 months, ≥3 to <6 months, ≥6 months to <12 months, ≥12 months.

Results. Each group showed improved outcomes greater than the minimal clinically important difference (MCID) for each measure as defined in NICE guidelines (2016). There was a trend toward better outcomes for those with shorter pain durations. The magnitude of the differences between the groups, in most instances, was below the MCID. For example, mean improvement in function for those with baseline pain duration <3 months was 20 points and 12 points for those of pain duration ≥12 months, both above the MCID of ≥10.

Conclusion. Patients with different durations of LBP at baseline improved on the NERBPP, supporting the recent modification to NICE guidelines. However, those with shorter durations of pain may have superior outcomes in the short term, suggesting added benefit in getting patients onto the pathway in the early stages of LBP.
Ultrasonic evaluation of joint involvement in established ra: active synovitis predicts sustained treatment changes in suspected biologic failure.*
Annals of the Rheumatic Diseases
https://ard.bmj.com/content/77/Suppl_2/917.1
Ismael Atchia

Abstract

Background: EULAR guidelines recommend treatment of rheumatoid arthritis (RA) targeted to remission.1 Biologic switching should be considered where there is at least moderate disease activity (DAS28 >3.2). The role of ultrasound (US) in guiding treatment is perhaps less clear. D’Agostino et al have proposed a novel algorithm based on current best evidence.2

Objectives: We present a case series of 30 RA patients with perceived biologic failure. By applying the algorithm to this group of patients we reviewed the impact of musculoskeletal ultrasound findings on treatment changes when compared to DAS28 assessment alone.

Methods: All patients had US of the Backhaus 7 joints on the most affected side, and any additional symptomatic joints. A global OMERACT-EULAR synovitis score (GLOESS) was calculated for each patient.3 DAS28 was calculated at the time of US, and clinician opinion to continue or switch biologic was documented pre and post US. Patient notes were reviewed at 6 months to assess whether treatment changes were sustained.

Results: 26 patients had DAS28 >3.2. Of these, 10 were found to have GLOESS >6 and subsequently switched biologic therapy. 4 patients had DAS28 <3.2, despite clinical suspicion of persistent inflammatory disease. Of these patients, 2 were found to have GLOESS >6, and subsequently switched to an alternative biologic. At 6 months 20/24 patient’s management remained consistent with previous US findings, 2 patients escalated treatment despite a previously negative US, 1 patient declined escalation (although US showed synovitis), 1 patient switched due to intolerance and 6 were lost to follow-up.

Conclusions: US significantly reduced the need to switch treatment in this cohort of patients compared with DAS28. Longitudinal follow up supports the validity of US to determine those with active disease whilst on a biologic. The use of US may prevent over-treatment, and subsequently reduce morbidity and financial cost. Further work is needed to evaluate the clinical impact and cost effectiveness of routine US prior considering a change in biologic therapy.
A double blind randomised control trial investigating the efficacy of platelet rich plasma versus placebo for the treatment of greater trochanteric pain syndrome (the HIPPO trial): a protocol for a randomised clinical trial.*

Eshan Oderuth, Mohammed Ali, Ismael Aitcha and Ajay Malviya

Abstract

Background
Greater trochanteric pain syndrome (GTPS) is a painful condition characterised by pain around the greater trochanter usually affecting middle-aged women. The majority of patients will improve with conservative management such as physiotherapy and non-steroidal anti-inflammatory drugs (NSAIDs); however, if this fails then more invasive treatments including corticosteroid injections and surgery may be required. Platelet-rich plasma (PRP) is an autologous blood product, which has a higher concentration of growth factors postulated to provide enhanced healing and anti-inflammatory properties. There have been numerous studies on PRP’s efficacy in musculoskeletal soft tissue conditions with similar pathology to GTPS, with varying results, most promising being in plantar fasciopathy and patellar tendinopathy. Corticosteroids are the established second-line treatment, but do not always work long term. PRP may be a suitable alternative to corticosteroid in GTPS with longer-term effects; however, there are very limited reports. The Hip Injections PRP Vs Placebo (HIPPO) trial aims to assess the ability of PRP to improve symptoms and function in patients with GTPS.

Methods/design
HIPPO is a single-centre, double-blind randomized placebo-controlled study in patients with a radiologically confirmed diagnosis of gluteus medius or minimus tendinopathy with swelling within the tendon insertion with or without bursitis. We aim to randomise 102 patients with GTPS to either the PRP or placebo (normal saline injection) treatment arm. Participants will receive one ultrasound (US) guided PRP/placebo injection into the trochanteric bursa and surrounding gluteus medius/minimus tendons. The primary outcome measure is the International Hip Outcome Tool-12. Secondary outcome measures will include a visual analogue score for pain, the three-level version of the EuroQol five-dimensional questionnaire and the modified Harris Hip Score. Outcomes will be measured at baseline, 3, 6 and 12 months. Participants will have the option at 6 months to have a repeat blinded injection or cross over to PRP. Analyses of primary and secondary outcomes will be made according to the intention-to-treat principle. The trial reporting will comply with Consolidated Standards of Reporting Trials (CONSORT) guidelines.

Discussion
The HIPPO study has been designed to test the hypothesis that PRP is effective in treating GTPS in patients who have failed conservative management and to assess the duration of effect of PRP.
A novel group clinic model for new patients enhances patient activation.*
Annals of the Rheumatic Diseases
https://ard.bmj.com/content/77/Suppl_2/841.2
T. Jones, M. Grove and F. Birrell

Abstract

Background: Group clinics are a widely used, key alternative care model in USA (as shared medical appointments and other labels), especially in centres of excellence like the Cleveland Clinic. They are increasingly seen as ‘a transformative innovation’1 and recognised as an effective solution to the universal healthcare challenges: increasing demand and limited resource2. We have extensive experience of follow up group clinics for inflammatory arthritis patients since 2008 with a co-designed model integrating patient and team views3. Qualitative research showed robust themes associated with successful delivery: Efficiency, Empathy, Education, Engagement and Empowerment. ‘Patient activation’ describes the knowledge, skills and confidence a person has in managing their own healthcare, but there is no published data in group clinics. A group model has also never been used for seeing new patients in secondary care, so this is an original application of an established care model.

Objectives: To show feasibility for new patients seen in a group setting and assess patient experience, including activation.

Methods: A mixed methods pilot study. New patients awaiting Rheumatology appointments were invited to pilots at one of two hospitals: 1) with experience of group clinics 2) without. Patients agreeing to attend knew this was a new application of an established innovation with an option to stay for a focus group or be interviewed by telephone afterwards. Sessions were videoed for educational purposes and qualitative interviews were conducted under existing research approvals with relevant consents for both. Numerical data included Patient Activation Measure before/after the two-hour clinic, EQ-5D and a standard feedback tool. Qualitative data was analysed using nVivo and compared to previously identified themes.

Results: 19 patients were seen in two two-hour clinics (mean 13 mins/patient vs. 30 mins/patient usual care), including complex patients with multiple diagnoses. 69 patients were phoned, of whom 16 did not answer, 20 declined, 6 failed to attend, 3 declined to see a Rheumatologist at all, 2 were deemed not suitable and 3 already had an appointment. Feedback was very positive: median 10 (IQR 8–10) across all domains, so was consistent with usual clinics and follow up group clinics. Free text positive comments far outweighing the negative. EQ-5D showed a highly impacted group (mean global health index 54 vs. UK age norm 77). Patient Activation Measure showed significant improvement over each two-hour session: (54 – 63 & 67 – 74; p<0.03). Qualitative analysis mapped to previous themes will be summarised at the meeting.

Conclusions: It is feasible and effective to see new patients in a group setting with an experienced team. New patients group clinics have a powerful effect in empowering patients and may become an important option for hard to manage patients especially where resources are limited.
A national survey of the roles and training of healthcare assistants in rheumatology departments.

Rheumatology

https://academic.oup.com/rheumatology/article/57/suppl_3/key075.497/4971399

Sandra Robinson and Peta Heslop

Abstract

Background: Health care assistants (HCAs) perform many roles in rheumatology departments which were previously performed by health care professionals (HCPs). HCPs have a responsibility to ensure HCAs are competent to perform delegated tasks. It is essential that HCPs are aware of the training HCAs have had to delegate roles appropriately. We developed a survey for HCAs and HCPs to identify the training received by HCAs, their roles, aspirations for training and their willingness to embrace new tasks.

Methods: A questionnaire was developed and modified to be appropriate for HCAs and HCPs by a steering group from the Education special interest group to identify the roles undertaken by HCAs, their confidence in performing these tasks and to gain information on training HCAs had received. Possible new roles and the educational aspirations were also explored.

This was developed on Survey Monkey the link was distributed to HCAs where email addresses were known and through the HCPs passing on the Survey Monkey link.

Results: To date 24 HCAs responded and 43 HCPs. Common tasks undertaken by HCAs were chaperoning and aiding patients with mobility problems; Height, Weight and BP measurements; urinalysis; completing blood forms, clerical tasks; preparing aseptic fields for joint injections, managing clinics and arranging follow up appointments. Some HCAs performed Schirmer’s tests, personal hygiene of patients and mentored their peers. HCAs expressed confidence in their roles, approximately 50% responded they had little or no training prior, with the exception of phlebotomy training. A few HCAs indicated they would embrace new roles such as joint counts; DAS scores; pain management; performing IM injections or Amsler tests but the majority of HCAs would engage in basic pain management. HCAs generally did not want new roles. HCAs wanted more education on all of the tasks they perform, rheumatic conditions, communication and guidance on what should be reported to HCPs. The HCPs concurred with HCAs around delegated tasks. 24% of HCPs responded that their HCAs had no formal training in a six month period, 22% 1-2 hours, 12% 3-5 hours and 28% more than 6 hours, 12% didn’t know. HCPs were divided between whether or not HCAs should do joint counts, pain management and Amsler tests. The majority of HCPs were in favour of HCAs carrying out DAS scores but were against them performing IM injections.

Conclusion: HCAs are doing many tasks including some that were performed only by HCPs a few years ago. HCAs are confident to execute these tasks although training to undertake them is variable. They would like more education including the rheumatic conditions and communication. They do not want to expand their roles. In contrast, the qualified staff would like to extend the roles of the HCAs.
A Feasibility Study comparing Platelet-Rich Plasma Injection with Saline for the treatment of Plantar Fasciitis using a Prospective, Randomized Trial Design.
Foot and Ankle Specialist
http://journals.sagepub.com/doi/abs/10.1177/1938640018776065
Sarah Johnson-Lynn, Alan Cooney, Diarmaid Ferguson, Deborah Bunn, William Gray, Jonathan Coorsh, Rajesh Kakwani and David Townshend

Abstract
Platelet-rich plasma (PRP) has been advocated for treatment of plantar fasciitis but there are few good-quality clinical trials to support its use. We conducted a feasibility study of PRP versus saline for treatment of plantar fasciitis. Patients with 6 months or more of magnetic resonance imaging–proven plantar fasciitis, who had failed conservative treatment were invited to participate in the study. Patients were block randomized to either PRP or an equivalent volume of saline. The techniques used for injection and rehabilitation were standardized for both groups. The patient and assessor were blinded. Visual analogue scale (VAS) for pain and painDETECT score were recorded preoperatively and at 6 months follow-up. From 35 patients approached, 28 (19 female, mean age 50 years) were recruited, with 14 randomized to each arm. At 6 months, 8 patients (28.6%) were lost to follow-up. There was a significant change in VAS score from baseline to follow-up in both intervention (mean change 37.2, \( P = .008 \)) and control (mean change 42.2, \( P = .003 \)) groups. There was no correlation between preoperative painDETECT score and change in VAS. Recruitment and loss to follow-up rates were relatively high. Both treatments resulted in a similar, significant, improvement in symptoms.

The use of platelet-rich plasma in the treatment of greater trochanteric pain syndrome: a systematic literature review.*
Journal of Hip Preservation Surgery
Mohammed Ali, Ismael Atchia and Ajay Malviya

Abstract
This review aims to determine whether platelet-rich plasma (PRP) has any role in improving clinical outcomes in patients with symptomatic greater trochanteric pain syndrome (GTPS). A search of NICE healthcare database advanced search (HDAS) via Athens (PubMed, MEDLINE, CINAHL, EMBASE and AMED databases) was conducted from their year of inception to April 2018 with the keywords: ‘greater trochanteric pain syndrome’ or ‘GTPS’ or ‘gluteus medius’ or ‘trochanteric bursitis’ and ‘platelet rich plasma’ (PRP). A quality assessment was performed using the JADAD score for RCTs and MINORS for non-RCT studies. Five full-text articles were included for analysis consisting of three RCTs and two case series. We also identified four additional studies from published conference abstracts (one RCT and three case series). The mean age in 209 patients was 58.4 years (range 48–76.2 years). The majority of patients were females and the minimum duration of symptoms was three months.
Diagnosis was made using ultrasound or MRI. Included studies used a variety of outcome measures. Improvement was observed during the first 3 months after injection. Significant improvement was also noted when patients were followed up till 12 months post treatment. PRP seems a viable alternative injectable option for GTPS refractory to conservative measures. The current literature has revealed that PRP is relatively safe and can be effective. Considering the limitations in these studies, more large-sample and high-quality randomized clinical trials are required in the future to provide further evidence of the efficacy for PRP as a treatment in GTPS.
Stigma and functional disability in relation to marriage and employment in young people with epilepsy in rural Tanzania.
Seizure: European Journal of Epilepsy
Richard W. Walker and William K Gray

Abstract

Background: EULAR guidelines recommend treatment of rheumatoid arthritis (RA) targeted to remission.1 Biologic switching should be considered where there is at least moderate disease activity (DAS28 >3.2). The role of ultrasound (US) in guiding treatment is perhaps less clear. D’Agostino et al have proposed a novel algorithm based on current best evidence.2

Objectives: We present a case series of 30 RA patients with perceived biologic failure. By applying the algorithm to this group of patients we reviewed the impact of musculo-skeletal ultrasound findings on treatment changes when compared to DAS28 assessment alone.

Methods: All patients had US of the Backhaus 7 joints on the most affected side, and any additional symptomatic joints. A global OMERACT-EULAR synovitis score (GLOESS) was calculated for each patient.3 DAS28 was calculated at the time of US, and clinician opinion to continue or switch biologic was documented pre and post US. Patient notes were reviewed at 6 months to assess whether treatment changes were sustained.

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Conclusions: US significantly reduced the need to switch treatment in this cohort of patients compared with DAS28. Longitudinal follow up supports the validity of US to determine those with active disease whilst on a biologic. The use of US may prevent over-treatment, and subsequently reduce morbidity and financial cost. Further work is needed to evaluate the clinical impact and cost effectiveness of routine US prior considering a change in biologic therapy.
Understanding and management of terminal illness within Tanzanian traditional medicine.
BMJ Supportive and Palliative Care
https://spcare.bmj.com/content/8/3/368.3
Emma Grace Lewis and Richard Walker

Abstract

Background: Palliative care (PC) need in Africa is projected to rise by 300% over the next 20 years. Late presentation and poor community awareness of services are recognised challenges to effective healthcare delivery. Traditional and faith healers (TFH) hold cultural importance and provide a significant proportion of primary healthcare in Africa. This project sought to explore their understanding and management of terminal illness with the aim of improving PC delivery through collaborations between TFH and allopathic services.

Methodology: Data were collected through semi-structured qualitative interviews with traditional healers (n=11) and faith healers (n=8) working within the Kilimanjaro region of Tanzania. Participants were recruited through convenience and purposive sampling. Interviews were audio-recorded and translated transcripts analysed by thematic analysis.

Findings: All TFH had experience of terminally ill and dying patients. Participants had a holistic approach to healthcare with themes of biological psychological social and spiritual factors identified throughout conceptualisation and management of both terminal illness and death. This also informed opinions towards collaboration seeing healthcare professionals and TFH holding different roles within these areas.

Conclusions: The overlap with allopathic explanatory models of health (i.e. the BioPsychoSocial model) provides positive grounds for future collaborations. TFH could complement allopathic PC services through culturally acceptable spiritual care perceived to be lacking in hospitals. Joint dialogue and education between practitioners is necessary to begin collaboration. A significant challenge to this is mistrust between traditional healers and faith healers. The findings merit further research into patient’s preferences and experiences of TFHs in terminal illness.

Can the ‘Death Cafe’ concept be adapted for use in healthcare professional learning and development.*
BMJ Supportive and Palliative Care
http://spcare.bmj.com/content/8/Suppl_1/A15.3
Kate Howorth, Richard Thomson and Paul Paes

Abstract

Background: Much deep learning is about thinking, talking, reflecting and shaping ideas through interactions with others. ‘Death cafes’ are examples of modified ‘World Café’ methods designed to create an informal, relaxed atmosphere where conversation allows people to recognise their own personal values, share knowledge and understand the world around them. This project was created to determine if this could be applied to healthcare professional development.
**Methods**: Two ‘death cafes’ were run, one with a Palliative Care team and one a group of hospital-based doctors. Groups of 3–6 people sat at tables with refreshments and a set of cards with stimulus questions on them related to death and end of life care. There was then informal discussion at the tables with people sharing their experiences and gaining new insights based on the group’s response to questions. After the Café participants were invited to complete an evaluation looking at its potential benefits, relevance to their role and suggested improvements.

**Results**: All participants saw benefits of using the Café for their learning. They reported the relaxed atmosphere generated open and interesting conversation and prompted discussion about end of life. The majority felt more confident in discussing death with patients and their families afterwards, including 77% of the Palliative Care team. Many reported they could use this format in their roles for wider team training sessions, medical student teaching or with certain patient groups.

**Conclusions**: Death cafes proved to be an effective tool for staff development and increased healthcare professionals’ confidence in discussing death. We will now expand this through using a similar format as an educational tool with medical students. The sessions will focus on training in end of life care; the process will be evaluated in terms of design and learning gain. The results will be available for the conference.

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**Defining and managing the complex patient : staff perceptions in community specialist palliative care.**

BMJ Supportive and Palliative Care

[http://spcare.bmj.com/content/8/Suppl_1/A53.3](http://spcare.bmj.com/content/8/Suppl_1/A53.3)

**Jonathan Pickard**

**Abstract**

**Aim**: To evaluate factors perceived as contributing to patient complexity in a community specialist palliative care team (SPCT) and assess confidence of community staff in identifying and managing such patients.

**Background**: Multiple co-morbidities, increased healthcare usage and psychosocial vulnerabilities feature broadly in descriptions of complexity and are prevalent within the palliative care demographic. Shared awareness of more-complex patients is necessary for cohesive care, effective handover and learning. Despite this, it is unclear how confidently SPCTs identify and manage such patients.

**Methods**: 14 nurses, HCAs and AHPs in a mixed-experience community SPCT in North East England were surveyed. Participants scored different biopsychosocial-spiritual aspects on a scale of 1 to 5 according to perceived contribution to complexity (1=weak and 5=strong contribution). Scores for each aspect were totaled. Participants then self-rated agreement with statements around complex patient identification, management and team support. Percentages of respondents self-rating >6/10 were calculated.
Results: 23.7% of patients were rated more complex than average. Exhausting clinical management options and high symptom burden contributed most to complexity (aggregated score 65/70), followed by rapid condition changes (64/70) and requirement for frequent interventions/admissions (63/70). 57.1% of staff felt at least somewhat confident in identifying and managing complex patients, with only 35.7% aware of robust systems for flagging complex individuals. 78.6% agreed a formalised system (e.g. ‘Virtual Ward’) could improve complex patient care.

Discussion: Self-perceived influencers of complexity are congruent with the literature, yet confidence in identifying and managing such patients is low. Subgroup analysis shows that although more-experienced staff have greater confidence in managing complexity, they perceive fewer opportunities to flag and discuss complex individuals, highlighting the need for a cross-sectional approach to enhancing complex patient care. Findings will help develop criteria to objectively and proactively define complex patients and improve care through greater team collaboration.

Hypoxia increases thyroid cancer stem cell-enriched side population.*
World Journal of Surgery
https://link.springer.com/article/10.1007/s00268-017-4331-x
Sebastian Aspinall

Abstract
Introduction
Hypoxic stress is a feature of rapidly growing thyroid tumours. Cancer progression is thought to be driven by a small population of tumour cells possessing stem cell properties. Hypoxia-inducible factors (HIFs) are important mediators of hypoxia. Both HIF-1alpha and HIF-2alpha have been reported to be expressed in thyroid cancers. There is growing evidence that the HIF pathway plays a significant role in the maintenance of thyroid cancer stem cells (CSC).

Methodology
We have isolated thyroid CSC from a papillary thyroid cancer-derived cell line (BCPAP) and an anaplastic thyroid cancer-derived cell line (SW1736) as side population (SP) cells (a putative stem cell population) and treated them with cobalt chloride (II) to induce hypoxia.

Results and discussion
We observed an increase in the SP of cells within the thyroid cancer cell lines following induction of hypoxia.
Modern matron in palliative and end of life care: linking clinical strategy to day-to-day care.*
BMJ Supportive & Palliative Care
https://spcare.bmj.com/content/8/Suppl_2/A89.3
Eleanor Grogan and Paul Paes

Abstract

Background When first introduced, the Modern Matron role was designed to have authority on leading on clinical strategy and governance, while also being an active presence on wards and in communities (Department of Health, 2000).

Aim As part of a wider partnership that established a multi-site palliative care hospital liaison team and a rapid response service, an innovative NHS Foundation Trust and a leading charity identified that a Modern Matron in Palliative and End of Life Care could support a joint strategy to improve care locally.

Method Several studies indicate variation in how Modern Matron roles are implemented in different areas (Savage & Scott, 2004; Read, Ashman, Scott et al., 2004). As the role is untested within a palliative care context, this work aims to better understand how this role works in practice. To explore this, an in-depth, case study interview was conducted with the Modern Matron in Palliative and End of Life Care.

Results Thematic analysis identified three priorities for the role:

- Linking strategy to day–to–day delivery through clinical leadership
- Creating a seamless service between hospital and community
- Value in partnership working.

Further, the Modern Matron is working to build nursing teams’ confidence in taking appropriate risk to enable improved patient outcomes.

Conclusion The interview indicates that using clinical leadership skills to create tangible links between strategy and day-to-day practice, and bridging care between hospital and community are key priorities for the Modern Matron for Palliative and End of Life Care role. The impact will be explored further in a future evaluation of the wider partnership.
The value of continuing professional development: a realistic evaluation of a multi-disciplinary workshop for health visitors dealing with children with complex needs.

Nurse Education Today

https://www.nurseeducationtoday.com/article/S0260-6917(18)30180-1/abstract

Belinda Bateman and Jane Stewart

Abstract

Background
Continuing Professional Development is important for maintaining and developing knowledge and skills. Evidence regarding direct impact on practice is limited. Existing literature often lacks sufficient detail regarding the initiative or its evaluation, making transferability problematic.

Objective
To explore the impact and perceived value of multi-disciplinary Continuing Professional Development workshops for Health Visitors who support families with children with complex health needs.

Design
Realistic Evaluation principles guided the research. Workshop attendees were invited to participate (n.21), 81% (n.17) agreed. Data collection included a questionnaire and semi-structured interviews. Data analysis included descriptive statistics and qualitative thematic analysis.

Setting
One North of England Health Service Trust.

Findings
Interrelated temporal themes emerged. Before the workshop expectations included, uncertainty regarding content and ambiguity regarding attendance. During workshops comments focused on networking opportunities, the detail, content and facilitation of the learning experience. ‘Emotional safety’ enabled interaction, sharing and absorption of information, and potentially increased trust, confidence and social capital. Participants viewed the workshop as informative, enhancing insight regarding roles, services and processes. Post-workshop participants reported examples of practice enhancements attributed to workshop attendance including: confidence building; improved team working; facilitation of early referral and accessing additional support for families.

Conclusions
Findings suggest initiative developers aiming CPD at new or existing teams need to consider nurturing social capital and to pay attention to the context and mechanisms, which can prompt attendance, engagement and subsequent practice application.
Understanding the needs and profile of people living at home with moderate to advanced stage Parkinson Disease.
Journal of Geriatric Psychiatry and Neurology
http://journals.sagepub.com/doi/abs/10.1177/0891988718788680
Annette Hand, Lloyd L. Oates, William K. Gray and Richard Walker

Abstract

Background: In the United Kingdom, people with Parkinson disease (PD) and atypical parkinsonism will require more support with their care needs as the condition progresses. There are few data on the nature of care input required and the amount of informal and formal care needed by people with PD to enable them to remain within their own home.

Method: All people with moderate to advanced stage (Hoehn and Yahr III-V) idiopathic PD and atypical parkinsonism under the care of the Northumbria Healthcare NHS Foundation Trust PD service and living in their own home were invited to take part in The Northumbria Care Needs Project, a 10-year prospective longitudinal study. At baseline, data regarding formal (paid) personal and domestic care input and use of respite care, sitting services, and day centers were collected. We also collected data on patient cognitive disability, functional disability, and disease severity and informal carer tasks.

Results: Of 162 people with PD included in the study, only 25.2% accessed formal domestic care and the same proportion formal personal care. In contrast, 80.2% identified an informal carer who helped with these tasks. Despite greater level of functional disability in those with an informal carer, levels of formal personal care input were similar to those with and without a formal carer. Levels of formal domestic carer input were higher in those without an informal carer.

Conclusions: Use of formal care services was relatively uncommon in our cohort and much of the burden of caring appears to be being met by informal carers.
200 years of Parkinson’s disease: what have we learned from James Parkinson?*
Age and Ageing
https://academic.oup.com/ageing/article/47/2/209/4791137
Annette Hand, Richard W. Walker and James M. Fisher

Abstract
2017 marks 200 years since James Parkinson’s published his ‘Essay on the Shaking Palsy’. Although now most famous for describing the condition that came to bear his name, Parkinson had a wide range of interests and his influence spread beyond medicine. In this review, we provide a biography of James Parkinson’s remarkable life. Parkinson’s paper not only comprehensively described the symptoms of Parkinson’s disease (PD), but challenged his peers to better understand the pathophysiology of the PD. Key observation over the next 2 centuries, included the recognition of the link between the substantia nigra and PD and the discoveries of dopamine deficiency in patients with PD. We review the subsequent development of pharmacological and surgical therapies. Despite great progress over the last 200 years, Parkinson’s hopes for a ‘cure if employed early enough’ or that ‘some remedial process may ere long be discovered by which at least the progression of the disease may be stopped’ remain apposite today and we reflect on the challenges ahead for the next century.

The pattern of hospital admissions prior to care home placement in people with Parkinson's Disease: Evidence of a period of crisis for patients and carers.
Journal of Aging and Health
http://journals.sagepub.com/doi/abs/10.1177/0898264318786125
Joanna Klaptocz, William K. Gray, Annette Hand, Lloyd Oates, Claire McDonald, Richard W. Walker

Abstract
Objectives: We hypothesized that the number and length of hospital admissions in people with Parkinson’s disease (PD) would increase immediately prior to admission to a care home relative to those who were able to continue living at home or who died.
Method: PD patients at Hoehn and Yahr Stages III to V were followed-up over two and a half years with deaths and care home placements recorded. Hospital admissions data were collected over this period. Results: Of 286 patients included in the study, 7.3% entered a care home and 28.3% died. In the final 120 days prior to the study exit point (care home placement, death, or continued living at home), longer hospital stay was significantly associated with care home placement, after adjusting for the competing risk of death. Conclusion: Our data provide evidence that, for many people with PD, a period of crisis is reached immediately prior to care home placement.
Drooling in Parkinson's Disease: Evidence of a role for Divided Attention.

Dysphagia

Richard Walker

Abstract

Drooling is a frequently reported symptom in Parkinson’s Disease (PD) with significant psychosocial impact and negative health consequences including silent aspiration of saliva with the associated risk of respiratory infections. It is suggested that in PD drooling is associated with inefficient oropharyngeal swallowing which reduces the effective clearance of saliva rather than hyper-salivation. This is compounded by unintended mouth opening and flexed posture increasing anterior loss of saliva. It is reported to occur most frequently during cognitively distracting concurrent tasks suggesting an impact from divided attention in a dual-task situation. However, this supposition has not been systematically examined. This study assessed whether frequency of saliva swallows reduced, and drooling severity and frequency increased, when people with PD engaged in a cognitively distracting task. 18 patients with idiopathic PD reporting daytime drooling on the Unified Parkinson’s Disease Rating Scale (UPDRS) were recruited. They completed the Radboud Oral Motor Inventory for PD saliva questionnaire and the Montreal Cognitive Assessment. UPDRS drooling score, disease stage, duration, gender, and age were recorded. Swallow frequency and drooling severity and frequency were measured at rest and during a distracting computer-based language task. There was no significant difference between drooling severity at rest and during distraction (Wilcoxon signed rank test $z = -1.724, p = 0.085$). There was a significant difference between at rest and distraction conditions for both drooling frequency (Wilcoxon signed rank test $z = -2.041, p = 0.041$) and swallow frequency (Wilcoxon signed rank test $z = -3.054, p = 0.002$). Participants swallowed less frequently and drooled more often during the distraction task. The frequency of saliva swallows and drooling are affected by divided attention in a dual-task paradigm. Further studies are needed to explore the exact role of attention in saliva management and the clinical applications in assessment and treatment.

Improving and integrating care for Parkinson's disease.*

Nursing and Residential Care

Peter Brock, William K. Gray, Annette Hand, Lloyd L. Oates and Richard Walker

Abstract

Care home residents often live with multiple morbidities. One of these, which can have a significant impact on motor and cognitive functions, is Parkinson's disease (PD). Peter Brock et al discuss a survey on how to improve care for residents living with PD.
High-intensity interval training in people with Parkinson’s disease: a randomized, controlled feasibility trial.

Clinical Rehabilitation
https://journals.sagepub.com/doi/abs/10.1177/0269215518815221
Marguerite Harvey, William K. Gray, Ailish O’Callaghan, Lloyd L. Oates, Richard Davidson and Richard W. Walker

Abstract

Objectives:
To investigate whether people with Parkinson’s disease can exercise at a high-intensity across a 12-week intervention and to assess the impact of the intervention on cardiorespiratory fitness.

Design:
This is a randomized, controlled, feasibility study with waiting list control. Assessors were blinded to group allocation.

Setting:
The intervention took place at an exercise centre and assessments at a district general hospital.

Subjects:
This study included 20 people with idiopathic Parkinson’s disease.

Intervention:
A total of 36 exercise sessions over 12 weeks, with each session lasting ~45 minutes, were conducted.

Main measures:
The main measures were maximal heart rates achieved during exercise, recruitment rate, attendance, drop-out, change in peak oxygen consumption, cardiac output, cognitive function and quality of life. The study was considered technically feasible if participants achieved -85% of maximal heart rate during exercise.

Results:
There were 12 male and 8 female participants; they had a mean age of 68.5 years (standard deviation 6.825). Two participants were of Hoehn and Yahr stage I, 11 stage II and 7 stage III. In all, 17 participants completed the intervention. The median (interquartile range) proportion of repetitions delivered across the intervention which met our high-intensity criterion was 80% (67% to 84%). Mean peak heart rate was 88.8% of maximal. Peak oxygen consumption increased by 2.8 mL kg⁻¹ min⁻¹ in the intervention group and 1.5 mL kg⁻¹ min⁻¹ in the control group after 12 weeks of exercise. We estimate that a fully powered randomized controlled trial would require 30 participants per group.

Conclusion:
High-intensity interval exercise is feasible in people with Parkinson’s disease. Improvements in cardiorespiratory function are promising.
The Foundation Pharmacist Project: exploring new models of dual-sector post graduate pharmacy training.*
International Journal of Pharmacy Practice
Tahmina Rokib, Wasim Baqir, David Campbell

Abstract

Objectives
To explore the experiences of primary care-based professional stakeholders in a dual-sector training programme for foundation pharmacists.

Methods
Professional stakeholders were defined as foundation pharmacists or members of staff working with foundation pharmacists such as general medical or nurse practitioners and administrative staff. Stakeholders were invited to participate via email and through gatekeepers. Participants were asked how they were involved in the training pathway, what their experiences had been and what they hoped for the future. Interviews were Audio-recorded, transcribed and thematically analysed using computer software.

Key findings
Twenty-eight face-to-face semi-structured interviews were conducted. Five major themes were identified (1) benefits of integration (2) appropriateness of the work (3) perceived impact (4) identity development and (5) training and peer support. These findings outline participants’ experiences of establishing a scope of practice in primary and secondary care settings and developing mechanisms to negotiate non-prescriber status to save general practitioners, practice nurse, community pharmacy and administrator time. Foundation pharmacists were able to develop a professional identity whilst working in each care setting, highlighting the dominance of hospital pharmacy exposure in clinical knowledge acquisition and establishing a community of practice across organisational and geographical boundaries using WhatsApp as a peer support tool.

Conclusions
Foundation pharmacists are able to work within their own competencies in two different care settings, developing scopes of practice and contributing clinically to service provision. This work provides evidence that this type of training pathway can offer an appropriate landscape for pharmacy practitioner development. Further work is needed to explore the longitudinal outcomes of the programme.
Pharmacist independent prescribing in secondary care: opportunities and challenges.*

International Journal of Clinical Pharmacy


Wasim Baqir

Abstract

In recent years a number of countries have extended prescribing rights to pharmacists in a variety of formats. The latter includes independent prescribing, which is a developing area of practice for pharmacists in secondary care. Potential opportunities presented by wide scale implementation of pharmacist prescribing in secondary care include improved prescribing safety, more efficient pharmacist medication reviews, increased scope of practice with greater pharmacist integration into acute patient care pathways and enhanced professional or job satisfaction. However, notable challenges remain and these need to be acknowledged and addressed if a pharmacist prescribing is to develop sufficiently within developing healthcare systems. These barriers can be broadly categorised as lack of support (financial and time resources), medical staff acceptance and the pharmacy profession itself (adoption, implementation strategy, research resources, second pharmacist clinical check). Larger multicentre studies that investigate the contribution of hospital-based pharmacist prescribers to medicines optimisation and patient-related outcomes are still needed. Furthermore, a strategic approach from the pharmacy profession and leadership is required to ensure that pharmacist prescribers are fully integrated into future healthcare service and workforce strategies.
The use of early warning scores to recognise and respond to patient deterioration in district nursing.*
British Journal of Community Nursing
Adele Lusher

Abstract
This discussion article focuses on the literature surrounding early warning scoring systems and their use in primary care, specifically within district nursing. Patient deterioration is a global concern, associated with high mortality rates and avoidable deaths. Early recognition and response by nursing and other health care staff has been attributed to early warning scoring systems (EWSS) and tools. However, the use of equivalent tools in the community appears to be lacking. This review concludes that there is no consensus over the use of EWSS in district nursing and culture of practice is varied, rather than standardised.

Evaluation of the sequential use of products embedded into a structured care pathway for leg ulcer management.*
Wounds UK
Jeanette Milne and Louise Jones

Abstract
Leg ulceration is one of the most studied areas of wound care (Chapman, 2017) and the cornerstones of care focus on adjusting or addressing lifestyle choices associated with diet, exercise and limb elevation, skin care, compression therapy and removing any barriers to healing. The vision of the NHS for the next five years is for clinicians to encourage self-care, establish best practice and to standardise care provision to reduce unwarranted variation (NHS England, 2017). This paper presents the findings from a pathway-driven ten-patient evaluation, which used pre-defined wound care products alongside a clearly laid-out wound care treatment plan.
Lifteez aerosol and wipes for the prevention and management of MARSI.*
Wounds UK
Louise Jones, Donna Bell and Christine Hodgson

Abstract
Adhesive removers can be used to dissolve the adhesives that are used to attach dressings, pouches and medical devices to the body, and can thus reduce the chance of medical adhesive-related skin injury (Marsi). Skin stripping can occur at any age; however, certain populations are at increased risk, e.g. older people, neonates, and those with compromised skin integrity or multiple comorbidities. This case series evaluates the clinical performance and outcomes of the silicone adhesive remover Lifteez in 10 patients. The acceptability of the product to patients and clinical staff was also evaluated.
The Anatomical, Hormonal and Neurochemical Changes that occur during Brain Development in Adolescents and Young Adults.

Health Care Transition (Book)

https://link.springer.com/chapter/10.1007/978-3-319-72868-1_2

Gail Dovey-Pearce

Abstract
Adolescent development used to be regarded as determined solely by changes in pubertal hormones and social expectations occurring in an unchanging brain. However, over the last 15 years, it has been recognised that the adolescent brain changes anatomically in fundamental ways, as striking as the changes over the first few years of life. Also the period of adolescent brain change lasts longer than that of puberty; adolescent brain maturation extends from 11 to 25 years of age. New imaging techniques show unequivocal changes in the white and grey matter which take place between 11 and 25 years of age. There is increased connectivity between brain regions and increased dopaminergic activity in the prefrontal cortices, the basal ganglia and limbic system and the pathways linking them. The brain is dynamic, with some areas developing faster and becoming more dominant until other areas catch up. In this chapter we describe new knowledge about changes in brain morphology, pubertal hormones and neurochemistry during adolescence. In the next chapter, we link these changes to some of the behavioural manifestations of adolescence.

The Relationships of Adolescent Behaviours to Adolescent Brain Changes and their Relevance to the Transition of Adolescents and Young Adults with Chronic Illness and Disability.

Health Care Transition (Book)

https://link.springer.com/chapter/10.1007/978-3-319-72868-1_3

Gail Dovey-Pearce

Abstract
While some clinicians seek to understand their adolescent patients and can empathise with the challenges they face, others may feel out of their comfort zone, may be upset by their interpretation of what an adolescent has said (or not said) and may even be irritated by adolescents. Understanding how different the adolescent’s brain is to their own may help child and adult clinicians relate better to adolescents and thereby promote their health. In this chapter we look specifically at risk-taking and novelty seeking, social behaviour and sleep. We then discuss the healthcare and transition of adolescents and young adults with chronic illness and disability.
An intervention in a rural community to build social connections and improve family outcomes.*
Journal of Health Visiting
https://link.springer.com/chapter/10.1007/978-3-319-72868-1_3
Elaine Walls and Janette Wood

Abstract
With recent austerity measures, including a reduction in local authority funding and some not for profit services, new parents can be faced with limited resources. Accessing services is a way for parents to meet similar people and build social connections. This article describes the development of a 6-week rolling programme to support the needs of new parents in a rural community, and to bridge the gap currently identified in local service provision. The positive effects of this intervention are evidence of the difference health visiting services and effective partnership working can produce.
Assessing prevalence of alcohol consumption in early pregnancy: self report compared to blood biomarker analysis.
European Journal of Medical Genetics
https://europepmc.org/abstract/MED/29753916
Helen Howlett, Shonag Mackenzie, William K. Gray, Leanne Nixon, Anthony Richardson, Eugen-Matthias Stehle and Nigel W. Brown

Abstract
Providing appropriate antenatal and postnatal care for women who drink alcohol in pregnancy is only possible if those at risk can be identified. We aimed to compare the prevalence of alcohol consumption in the first trimester of pregnancy using self-report and blood biomarker analysis. Six-hundred routine blood samples from 2014, taken at the antenatal booking appointment, in the first trimester of pregnancy, were anonymously analysed for the presence of Carbohydrate Deficient Transferrin (CDT), a validated marker of chronic alcohol exposure (normalising 2-3 weeks from abstinence) and Gamma-glutamyltransferase (GGT), a liver enzyme elevated for up to 8 weeks after alcohol exposure. In a separate sample of women, from 2015, data taken during the antenatal visit, documenting women's self-reported alcohol consumption, were collected. The percentage of women who reported alcohol intake in the first trimester was 0.8%. This compared to 74.1% of women who reported consuming alcohol before pregnancy. CDT analysis revealed a prevalence rate of 1.4% and GGT a prevalence rate of 3.5% in the first trimester of pregnancy. Although those with elevated CDT generally had high levels of GGT, only one person was positive for CDT and GGT. Results from CDT analysis and self-report may underestimate prevalence for different reasons. GGT appeared to lack specificity, but it may have value in supporting findings from CDT analysis. Further studies using additional blood biomarkers, or a combination of blood biomarkers and self-report, may be beneficial in accurately detecting alcohol drinking history in pregnancy.
BMJ Open Respiratory Research
https://bmjopenrespres.bmj.com/content/5/1/e000283
Stephen Bourke

Abstract
Introduction: The purpose of the quality standards document is to provide healthcare professionals, commissioners, service providers and patients with a guide to standards of care that should be met for the provision of acute non-invasive ventilation in adults together with measurable markers of good practice.


Results: 6 quality statements have been developed, each describing a standard of care for the provision of acute non-invasive ventilation in the UK, together with measurable markers of good practice.

Conclusion: BTS Quality Standards for acute non-invasive ventilation in adults form a key part of the range of supporting materials that the Society produces to assist in the dissemination and implementation of guideline’s recommendations.

The feasibility of early pulmonary rehabilitation and activity after COPD exacerbations: external pilot randomised qualitative case study and exploratory evaluation.*
Health Technology Assessment
https://www.journalslibrary.nihr.ac.uk/hta/hta22110#/abstract
Stephen Bourke

Abstract
Background: Chronic obstructive pulmonary disease (COPD) affects > 3 million people in the UK. Acute exacerbations of COPD (AECOPD) are the second most common reason for emergency hospital admission in the UK. Pulmonary rehabilitation is usual care for stable COPD but there is little evidence for early pulmonary rehabilitation (EPR) following AECOPD, either in hospital or immediately post discharge.

Objective: To assess the feasibility of recruiting patients, collecting data and delivering EPR to patients with AECOPD to evaluate EPR compared with usual care.

Design: Parallel-group, pilot 2 × 2 factorial randomised trial with nested qualitative research and an economic analysis.

Setting: Two acute hospital NHS trusts. Recruitment was carried out from September 2015 to April 2016 and follow-up was completed in July 2016.
**Participants:** Eligible patients were those aged ≥ 35 years who were admitted with AECOPD, who were non-acidotic and who maintained their blood oxygen saturation level (SpO2) within a prescribed range. Exclusions included the presence of comorbidities that affected the ability to undertake the interventions. Interventions: (1) Hospital EPR: muscle training delivered at the patient’s hospital bed using a cycle ergometer and (2) home EPR: a pulmonary rehabilitation programme delivered in the patient’s home.

**Interventions:** (1) Hospital EPR: muscle training delivered at the patient’s hospital bed using a cycle ergometer and (2) home EPR: a pulmonary rehabilitation programme delivered in the patient’s home. Both interventions were delivered by trained physiotherapists. Participants were allocated on a 1 : 1 : 1 : 1 ratio to (1) hospital EPR (n = 14), (2) home EPR (n = 15), (3) hospital EPR and home EPR (n = 14) and (4) control (n = 15). Outcome assessors were blind to treatment allocation; it was not possible to blind patients.

**Main outcome measures:** Feasibility of recruiting 76 participants in 7 months at two centres; intervention delivery; views on intervention/research acceptability; clinical outcomes including the 6-minute walk distance (6WMD); and costs. Semistructured interviews with participants (n = 27) and research health professionals (n = 11), optimisation assessments and an economic analysis were also undertaken.

**Results:** Over 7 months 449 patients were screened, of whom most were not eligible for the trial or felt too ill/declined entry. In total, 58 participants (76%) of the target 76 participants were recruited to the trial. The primary clinical outcome (6MWD) was difficult to collect (hospital EPR, n = 5; home EPR, n = 6; hospital EPR and home EPR, n = 5; control, n = 5). Hospital EPR was difficult to deliver over 5 days because of patient discharge/staff availability, with 34.1% of the scheduled sessions delivered compared with 78.3% of the home EPR sessions. Serious adverse events were experienced by 26 participants (45%), none of which was related to the interventions. Interviewed participants generally found both interventions to be acceptable. Home EPR had a higher rate of acceptability, mainly because patients felt too unwell when in hospital to undergo hospital EPR. Physiotherapists generally found the interventions to be acceptable and valued them but found delivery difficult because of staffing issues. The health economic analysis results suggest that there would be value in conducting a larger trial to assess the cost-effectiveness of the hospital EPR and hospital EPR plus home EPR trial arms and collect more information to inform the hospital cost and quality-adjusted life-year parameters, which were shown to be key drivers of the model.

**Conclusions:** A full-scale randomised controlled trial using this protocol would not be feasible. Recruitment and delivery of the hospital EPR intervention was difficult. The data obtained can be used to design a full-scale trial of home EPR. Because of the small sample and large confidence intervals, this study should not be used to inform clinical practice.
Outpatient Talc Administration by Indwelling Pleural Catheter for Malignant Effusion.*
The New England Journal of Medicine
David Cooper

Abstract

BACKGROUND
Malignant pleural effusion affects more than 750,000 persons each year across Europe and the United States. Pleurodesis with the administration of talc in hospitalized patients is the most common treatment, but indwelling pleural catheters placed for drainage offer an ambulatory alternative. We examined whether talc administered through an indwelling pleural catheter was more effective at inducing pleurodesis than the use of an indwelling pleural catheter alone.

METHODS
Over a period of 4 years, we recruited patients with malignant pleural effusion at 18 centers in the United Kingdom. After the insertion of an indwelling pleural catheter, patients underwent drainage regularly on an outpatient basis. If there was no evidence of substantial lung entrapment (nonexpandable lung, in which lung expansion and pleural apposition are not possible because of visceral fibrosis or bronchial obstruction) at 10 days, patients were randomly assigned to receive either 4 g of talc slurry or placebo through the indwelling pleural catheter on an outpatient basis. Talc or placebo was administered on a single-blind basis. Follow-up lasted for 70 days. The primary outcome was successful pleurodesis at day 35 after randomization.

RESULTS
The target of 154 patients undergoing randomization was reached after 584 patients were approached. At day 35, a total of 30 of 69 patients (43%) in the talc group had successful pleurodesis, as compared with 16 of 70 (23%) in the placebo group (hazard ratio, 2.20; 95% confidence interval, 1.23 to 3.92; P=0.008). No significant between-group differences in effusion size and complexity, number of inpatient days, mortality, or number of adverse events were identified. No significant excess of blockages of the indwelling pleural catheter was noted in the talc group.

CONCLUSIONS
Among patients without substantial lung entrapment, the outpatient administration of talc through an indwelling pleural catheter for the treatment of malignant pleural effusion resulted in a significantly higher chance of pleurodesis at 35 days than an indwelling catheter alone, with no deleterious effects.
Home treatment of COPD exacerbation selected by DECAF score: a non-inferiority, randomised controlled trial and economic evaluation.*
Thorax
https://thorax.bmj.com/content/73/8/713
Carlos Echevarria, Tom Hartley, John Steer, Jonathan Miller and Stephen Bourke

Abstract
Background: Previous models of Hospital at Home (HAH) for COPD exacerbation (ECOPD) were limited by the lack of a reliable prognostic score to guide patient selection. Approximately 50% of hospitalised patients have a low mortality risk by DECAF, thus are potentially suitable.

Methods: In a non-inferiority randomised controlled trial, 118 patients admitted with a low-risk ECOPD (DECAF 0 or 1) were recruited to HAH or usual care (UC). The primary outcome was health and social costs at 90 days.

Results: Mean 90-day costs were £1016 lower in HAH, but the one-sided 95% CI crossed the non-inferiority limit of £150 (CI −2343 to 312). Savings were primarily due to reduced hospital bed days: HAH=1 (IQR 1–7), UC=5 (IQR 2–12) (P=0.001). Length of stay during the index admission in UC was only 3 days, which was 2 days shorter than expected. Based on quality-adjusted life years, the probability of HAH being cost-effective was 90%. There was one death within 90 days in each arm, readmission rates were similar and 90% of patients preferred HAH for subsequent ECOPD.

Conclusion: HAH selected by low-risk DECAF score was safe, clinically effective, cost-effective, and preferred by most patients. Compared with earlier models, selection is simpler and approximately twice as many patients are eligible. The introduction of DECAF was associated with a fall in UC length of stay without adverse outcome, supporting use of DECAF to direct early discharge.

Specialist emergency care and COPD outcomes.*
BMJ Open Respiratory Research
https://bmjopenrespres.bmj.com/content/5/1/e000334
Nicholas David Lane, Karen Brewin, Tom Murray Hartley, William Keith Gray, Mark Burgess, John Steer and Stephen C. Bourke

Abstract
Introduction: In exacerbation of chronic obstructive pulmonary disease (ECOPD) requiring hospitalisation greater access to respiratory specialists improves outcome, but is not consistently delivered. The UK National Confidential Enquiry into Patient Outcome and Death 2015 enquiry showed over 25% of patients receiving acute non-invasive ventilation (NIV) for ECOPD died in hospital. On 16 June 2015 the Northumbria Specialist Emergency Care Hospital (NSECH) opened, introducing 24/7 specialty consultant on-call, direct admission from the emergency department to specialty wards and 7-day consultant review. A Respiratory Support Unit opened for patients requiring NIV. Before NSECH the NIV service included mandated training and competency assessment, 24/7 single point of access, initiation of ventilation in the emergency department, a door-to-mask time target, early titration of ventilation pressures and
structured weaning. Pneumonia or hypercapnic coma complicating ECOPD have never been considered contraindications to NIV. After NSECH staff-patient ratios increased, the NIV pathway was streamlined and structured daily multidisciplinary review introduced. We compared our outcomes with historical and national data.

**Methods:** Patients hospitalised with ECOPD between 1 January 2013 and 31 December 2016 were identified from coding, with ventilation status and radiological consolidation confirmed from records. Age, gender, admission from nursing home, consolidation, revised Charlson Index, key comorbidities, length of stay, and inpatient and 30-day mortality were captured. Outcomes pre-NSECH and post-NSECH opening were compared and independent predictors of survival identified via logistic regression.

**Results:** There were 6291 cases. 24/7 specialist emergency care was a strong independent predictor of lower mortality. Length of stay reduced by 1 day, but 90-day readmission rose in both ventilated and non-ventilated patients.

**Conclusion:** Provision of 24/7 respiratory specialist emergency care improved ECOPD survival and shortened length of stay for both non-ventilated and ventilated patients. The potential implications in respect to service design and provision nationally are substantial and challenging.

### Late failure of NIV in exacerbations of COPD: all is not lost.*

**Thorax**

https://thorax.bmj.com/content/73/Suppl_4/A211.1

**Tom Murray Hartley, Nicholas David Lane, John Steer and Stephen C. Bourke**

**Abstract**

**Introduction** Late failure (LF) of NIV is initial success (correction of respiratory acidaemia) but subsequent deterioration, rise in PaCO₂ and recurrence of respiratory acidaemia while still in receipt of NIV. Moretti reports 31/137 (23%) patients with COPD exacerbation (ECOPD) experienced LF who, based on patient preference, received either invasive ventilation (n=19, in-hospital mortality 53%) or increased duration of NIV (n=12, in-hospital mortality 92%). These results have influenced international guidance.

**Methods** Consecutive, unique patients hospitalised with a primary diagnosis of spirometry confirmed ECOPD requiring NIV were identified (NIV Outcomes study derivation cohort). Late failure was defined as: ‘Recurrence of respiratory acidaemia prior to discontinuation of ventilation. pH should drop to below 7.35 with a rise in CO₂ of at least 1 kPa and to >6.0 kPa from the lowest recorded post pH correction at least 24 hours after pH correction.’

**Results** 35/489 (7.2%) patients hospitalised between Dec-2008 and May-2013 experienced LF; none were intubated, 3 were immediately palliated and a further 5 had NIV withdrawn within 24 hours. Excluding 3 immediately palliated, NIV was provided for mean 12.4/24 hour pre LF and 17.1/24 hour post. Median pressures were modestly increased from median 18/4 to 20/5. Overall inpatient mortality was 25.4%.
Discussions

Development of LF was associated with an increased mortality, but 2/3 survived to discharge with optimised NIV, compared to only 8% in previously reported results. Patients developing LF had higher eMRCD score and trended toward increased LTOT prescription and later acidaemia development. LF was not associated with greater physiological burden as measured by the APACHE II score. At time of presentation comparison results from 10 UK centres n=734 NIVO validation study will be available.

NIV in exacerbations of COPD: prognostication is not all baseless.*

Thorax

https://thorax.bmj.com/content/73/Suppl_4/A79.1

Tom Murray Hartley, Nicholas David Lane, John Steer and Stephen C. Bourke

Abstract

Background Patients ventilated for ECOPD include those with and without chronic hypercapnia. Time to pH correction after instigation of ventilation has been associated with likely treatment success. However, prognostication prior to instigation of ventilation is poor indicating clinicians’ notion of true adverse factors may be flawed.

Methods The derivation cohort of the NIV Outcome study comprises consecutive, unique patients hospitalised with a primary diagnosis of ECOPD receiving assisted ventilation. Key demographic and prognostic indices were collected from case-note review. Arterial blood gases were examined, a pH was only recorded as corrected when pH ≥7.35 was seen on an ABG post NIV initiation.

Results Data was collected on 489 patients admitted Dec-2008 to May-2013, 20 patients who survived to discharge but did not have a blood gas showing pH correction were assumed to belong to the >36 hour group. 5.5% received IMV. Outcomes categorised by base excess (BE) are shown in the table 1.

Discussion Those with likely concurrent metabolic acidaemia as measured by a negative BE have lower pH and much worse outcome. More interestingly from this cohort the higher the base excess at outset the lower the mortality. Amongst those with a BE >10 crudely indicating substantial chronic hypercapnia without complicating mixed acidaemia a large majority correct pH within 36 hours and mortality is low. Chronic hypercapnia is not an adverse prognostic feature. At time of presentation comparison results from 10 UK centres n=734 NIVO validation study will be available.
A comparison of the DECAF score and NEWS2 to predict inpatient death in patients with COPD exacerbations.*
Thorax
https://thorax.bmj.com/content/73/Suppl_4/A29.1
John Steer and Stephen C. Bourke

Abstract

Introduction The DECAF score accurately predicts death in patients hospitalised with COPD exacerbation. It is superior to other prognostic scores and can be used to guide treatment, such as identifying low risk patients for Hospital at Home.1 The National Early Warning System was updated in December 2017 (NEWS2), and takes into account patients at risk of hypercapnic respiratory failure who require lower target oxygen saturations. The prognostic benefit of admission NEWS2 in comparison to DECAF has not been examined. Whilst the function of NEWS2 is different from DECAF, if admission NEWS2 were as good or better at risk prediction than DECAF then the principle of parsimony would favour its use.

Methods The DECAF score and the original NEWS indices were collected in consecutive admissions of patients with COPD exacerbation (n=2,645) in derivation, internal validation and external validation cohorts from six UK hospitals. COPD was confirmed with spirometry, and an exacerbation was based on GOLD criteria. The original NEWS indices were re-coded to the NEWS2 scoring system, and its discrimination was assessed using the area under the receiver operator curve. DECAF and NEWS2 were compared using the method of Delong. Missing data were imputed using multiple imputation.

Results For in-hospital mortality prediction, DECAF was superior to admission NEWS2 across all three cohorts, and was more consistent between cohorts. Overall, DECAF offered more clinically useful risk stratification: low risk DECAF=1.2%, NEWS2=3.5%; moderate risk DECAF=6.4%, NEWS2=5.6%; high risk DECAF=25.5%, NEWS2=15.4%.

Discussion Assessment of in-hospital mortality risk on admission for COPD exacerbation should inform clinical care. Admission NEWS2 showed variable and at best modest performance in different cohorts, which does not support its adoption for this purpose. DECAF offers excellent and consistent prediction of inpatient mortality, and clinically and cost-effective selection for Hospital at Home.1 This supports retention of DECAF for this purpose. These results do not detract from use of repeated measures of NEWS2 during admission for its intended purpose of identifying deteriorating patients.
A novel design process for selection of attributes for inclusion in discrete choice experiments: case study exploring variation in clinical decision-making about thrombolysis in the treatment of acute ischaemic stroke.*

BMC Health Services Research


Helen Rodgers and Matthew Rudd

Abstract

Background
A discrete choice experiment (DCE) is a method used to elicit participants’ preferences and the relative importance of different attributes and levels within a decision-making process. DCEs have become popular in healthcare; however, approaches to identify the attributes/levels influencing a decision of interest and to selection methods for their inclusion in a DCE are under-reported. Our objectives were: to explore the development process used to select/present attributes/levels from the identified range that may be influential; to describe a systematic and rigorous development process for design of a DCE in the context of thrombolytic therapy for acute stroke; and, to discuss the advantages of our five-stage approach to enhance current guidance for developing DCEs.

Methods
A five-stage DCE development process was undertaken. Methods employed included literature review, qualitative analysis of interview and ethnographic data, expert panel discussions, a quantitative structured prioritisation (ranking) exercise and pilot testing of the DCE using a ‘think aloud’ approach.

Results
The five-stage process reported helped to reduce the list of 22 initial patient-related factors to a final set of nine variable factors and six fixed factors for inclusion in a testable DCE using a vignette model of presentation.

Conclusions
In order for the data and conclusions generated by DCEs to be deemed valid, it is crucial that the methods of design and development are documented and reported. This paper has detailed a rigorous and systematic approach to DCE development which may be useful to researchers seeking to establish methods for reducing and prioritising attributes for inclusion in future DCEs.
Automated FES for upper limb rehabilitation following stroke and spinal cord injury. IEEE Transactions on Neural Systems and Rehabilitation Engineering.*
IEEE Transactions on Neural Systems and Rehabilitation Engineering
Helen Rodgers

Abstract
Neurorehabilitation aims to induce beneficial neural plasticity in order to restore function following injury to the nervous system. There is an increasing evidence that appropriately timed functional electrical stimulation (FES) can promote associative plasticity, but the dosage is critical for lasting functional benefits. Here, we present a novel approach to closed-loop control of muscle stimulation for the rehabilitation of reach-to-grasp movements following stroke and spinal cord injury (SCI). We developed a simple, low-cost device to deliver assistive stimulation contingent on users' self-initiated movements. The device allows repeated practice with minimal input by a therapist, and is potentially suitable for home use. Pilot data demonstrate usability by people with upper limb weakness following SCI and stroke, and participant feedback was positive. Moreover, repeated training with the device over 1-2 weeks led to functional benefits on a general object manipulation assessment. Thus, automated FES delivered by this novel device may provide a promising and readily translatable therapy for upper limb rehabilitation for people with stroke and SCI.
Anatomic shoulder arthroplasty.
Orthopaedics and Trauma
Christopher George Ghazala and Jamie Candal-Couto

Abstract
Arthroplasty has become a reliable treatment for degenerative joint diseases of the shoulder. Implant designs have developed over the last 60 years to address the initial problems encountered in arthroplasty: restoration of function and implant loosening. Although reverse shoulder arthroplasty (RSA) has become the most commonly performed type of shoulder replacement in the UK, total anatomical shoulder arthroplasty (TSA) has remained as a well-established treatment for osteoarthritis in patients with a competent rotator cuff. Patients with osteoarthritis treated with TSA can nowadays expect a lasting, significant improvement in pain and function. Nonetheless, controversies exist regarding the indications for humeral hemiarthroplasty and the use of stemless prostheses and other, newer implant designs. Interestingly, changes in the design of glenoid components have not led to significant improvements in clinical performance with time, and cemented all-polyethylene components remain the most reliable option. Lower glenoid aseptic loosening rates are probably best achieved by optimizing the restoration of natural humeral head anatomy.

MSSA screening and decolonisation in elective hip and knee arthroplasty.
Journal of Infection
Edward Jeans, Richard Holleyman, David Tate, Mike Reed and Ajay Malviya

Abstract
Aims
Periprosthetic joint infection (PJI) is a catastrophic and potentially life threatening complication following arthroplasty. In addition to the resulting impact on patient morbidity and mortality, PJI is associated with significant financial cost, which is estimated at £21,937 per case. Methicillin sensitive staphylococcus aureus (MSSA) is a common isolate in PJI and colonisation is a proven risk factor for subsequent infection. The aims of this study were: (1) to determine if MSSA screening and decolonisation reduced MSSA PJI rate in primary joint replacement and (2) to determine cost effectiveness of such a screening program.

Methods
Pre-operative screening for MSSA was introduced in our institution in 2010. All MSSA positive patients attending for elective arthroplasty were prescribed Octenisan body wash and nasal Bactroban for use 5 days prior to procedure, and five days after. Infection data was collected prospectively and compared with a control group from before.

Results
Between 2007 and 2014, 12,910 primary arthroplasties (5917 hip, 6993 knee) were performed. There were 3593 in the pre-screening group and 9318 in the post-screening group. Pre-screening PJI MSSA rate was 0.75% which reduced to 0.25% post screening introduction (p < 0.0001).
Overall PJI rate fell from 1.92% to 1.41% ($p = 0.03$). The screening program was most effective in MSSA prevention in total hip arthroplasty (3% to 1.5%, $p = 0.002$) and significant in the multivariate analysis. Following the introduction of the screening programme 47 PJs were avoided, with a cost per infection prevented of £1893.

**Conclusion**

The MSSA screening and eradication protocol used in our institution was effective at reducing rates of MSSA PJI. Furthermore, it resulted in significant savings when compared to the cost of prevented infections.

“Don’t shoot the messengers…..”: The new NICE guidance for the prevention of venous thromboembolism in adults – fake news or a real opportunity?*

The Bone & Joint Journal

Mike Reed

Editorial Piece
Full text can be found via OpenAthens at: https://journals.nice.org.uk/search?type=Exact&term=Bone+and+Joint+Journal+%2C+The#results

**A systematic review of surgical methods to restore articular cartilage in the hip.**

Bone & Joint Research

Ajay Malviya

**Abstract**

This systematic review examines the current literature regarding surgical techniques for restoring articular cartilage in the hip, from the older microfracture techniques involving perforation to the subchondral bone, to adaptations of this technique using nano-fractions and scaffolds. This review discusses the autologous and allograft transfer systems and the autologous matrix-induced chondrogenesis (AMIC) technique, as well as a summary of the previously discussed techniques, which could become common practice for restoring articular cartilage, thus reducing the need for total hip arthroplasty. Using the British Medical Journal Grading of Recommendations, Assessment, Development and Evaluation (BMJ GRADE) system and Grade system. Comparison of the studies discussed shows that microfracture has the greatest quantity and quality of research, whereas the newer AMIC technique requires more research, but shows promise.
Too Deep or Not Too Deep?: a propensity-matched comparison of the analgesic effects of a superficial versus deep seratus fascial plane block for ambulatory breast cancer surgery.

Abstract

Background and Objectives
Serratus fascial plane block can reduce pain following breast surgery, but the question of whether to inject the local anesthetic superficial or deep to the serratus muscle has not been answered. This cohort study compares the analgesic benefits of superficial versus deep serratus plane blocks in ambulatory breast cancer surgery patients at Women's College Hospital between February 2014 and December 2016. We tested the joint hypothesis that deep serratus block is noninferior to superficial serratus block for postoperative in-hospital (pre-discharge) opioid consumption and pain severity.

Methods
One hundred sixty-six patients were propensity matched among 2 groups (83/group): superficial and deep serratus blocks. The cohort was used to evaluate the effect of blocks on postoperative oral morphine equivalent consumption and area under the curve for rest pain scores. We considered deep serratus block to be noninferior to superficial serratus block if it were noninferior for both outcomes, within 15 mg morphine and 4 cm·h units margins. Other outcomes included intraoperative fentanyl requirements, time to first analgesic request, recovery room stay, and incidence of postoperative nausea and vomiting.

Results
Deep serratus block was associated with postoperative morphine consumption and pain scores area under the curve that were noninferior to those of the superficial serratus block. Intraoperative fentanyl requirements, time to first analgesic request, recovery room stay, and postoperative nausea and vomiting were not different between blocks.

Conclusions
The postoperative in-hospital analgesia associated with deep serratus block is as effective (within an acceptable margin) as superficial serratus block following ambulatory breast cancer surgery. These new findings are important to inform both current clinical practices and future prospective studies.
Cost-Utility Analysis of Venous Thromboembolism Prophylaxis Strategies for People Undergoing Elective Total Hip and Total Knee Replacement Surgeries in the English National Health Service.

Frontiers in Pharmacology

Mike Reed

Abstract

Background: Major orthopaedic surgery, such as primarily elective total hip replacement (eTHR) and elective total knee replacement (eTKR), are associated with a higher risk of venous thromboembolism (VTE) than other surgical populations. Little is known, however, about the cost-effectiveness of VTE prophylaxis strategies in these populations.

Aim: The aim of this work was to assess the cost-effectiveness of these strategies from the English National Health Service perspective to inform NICE guideline (NG89) recommendations.

Materials and Methods: Cost-utility analysis, using decision modelling, was undertaken to compare 15 VTE prophylaxis strategies for eTHR and 12 for eTKR, in addition to “no prophylaxis” strategy. The analysis complied with the NICE Reference Case. Structure and assumptions were agreed with the guideline committee. Incremental net monetary benefit (INMB) was calculated, vs the model comparator (LMWH+ antiembolism stockings), at a threshold of £20,000/quality-adjusted life-year (QALY) gained. The model was run probabilistically. Deterministic sensitivity analyses (SAs) were undertaken to assess the robustness of the results.

Results: The most cost-effective strategies were LMWH for 10 days followed by aspirin for 28 days (INMB=£530 [95% CI: £784 to £1,103], probability of being most cost-effective = 72%) for eTHR, and foot pump (INMB = £353 [95% CI: £101 to £665]; probability of being most cost-effective =18%) for eTKR. There was considerable uncertainty regarding the cost-effectiveness ranking in the eTKR analysis. The results were robust to change in all SAs.

Conclusions: For eTHR, LMWH (standard dose) for 10 days followed by aspirin for 28 days is the most cost-effective VTE prophylaxis strategy. For eTKR, the results are highly uncertain but foot pump appeared to be the most cost-effective strategy, followed closely by aspirin (low dose). Future research should focus on assessing cost-effectiveness of VTE prophylaxis in the eTKR population.
Reducing Implant Infection in Orthopaedics (RIiIO): a pilot study for a randomised controlled trial comparing the influence of forced air versus resistive fabric warming technologies on postoperative infection rates following orthopaedic implant surgery in adults.*

Trials

Mike Reed

Abstract

Background
Approximately 70,000 to 75,000 proximal femoral fracture repairs take place in the UK each year. Hemiarthroplasty is the preferred treatment for adults aged over 60 years. Postoperative infection affects up to 3% of patients and is the single most common reason for early return to theatre. Ultraclean ventilation was introduced to help mitigate the risk of infection, but it may also contribute to inadvertent perioperative hypothermia, which itself is a risk for postoperative infection. To counter this, active intraoperative warming is used for all procedures that take 30 min or more. Forced air warming (FAW) and resistive fabric warming (RFW) are the two principal techniques used for this purpose; they are equally effective in prevention of inadvertent perioperative hypothermia, but it is not known which is associated with the lowest infection rates. Deep surgical site infection doubles operative costs, triples investigation costs and quadruples ward costs. The Reducing Implant Infection in Orthopaedics (RIiIO) study seeks to compare infection rates with FAW versus RFW after hemiarthroplasty for hip fracture. A cost-neutral intervention capable of reducing postoperative infection rates would likely lead to a change in practice, yield significant savings for the health economy, reduce overall exposure to antibiotics and improve outcomes following hip fracture in the elderly. The findings may be transferable to other orthopaedic implant procedures and to non-orthopaedic surgical specialties.

Methods
RIiIO is a parallel group, open label study randomising hip fracture patients over 60 years of age who are undergoing hemiarthroplasty to RFW or FAW. Participants are followed up for 3 months. Definitive deep surgical site infection within 90 days of surgery, the primary endpoint, is determined by a blinded endpoint committee.

Discussion
Hemiarthroplasty carries a risk of deep surgical site infection of approximately 3%. In order to provide 90% power to demonstrate an absolute risk reduction of 1%, using a 5% significance level, a full trial would need to recruit approximately 8630 participants. A pilot study is being conducted in the first instance to demonstrate that recruitment and data management strategies are appropriate and robust before embarking on a large multi-centre trial.