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Orthogeriatrics

Current Awareness Newsletter

December 2016 (Quarterly)

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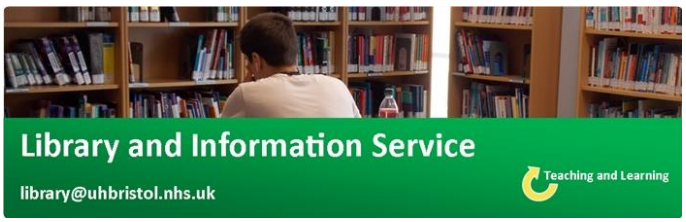

Training Sessions 2016/17

All sessions are 1 hour

December (12.00)

Fri 16th	**Literature Searching**
Mon 20th	**Critical Appraisal**

January (13.00)

Tues 10th	**Literature Searching**
Wed 18th	**Critical Appraisal**
Thur 26th	**Statistics**

February (12.00)

Fri 3rd	**Literature Searching**
Mon 6th	**Critical Appraisal**
Tues 14th	**Statistics**
Wed 22nd	**Literature Searching**

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Contents

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The Latest Evidence for Orthogeriatrics

NICE National Institute for Health and Care Excellence

Impact of pharmacist interventions in older patients: a prospective study in a tertiary hospital in Germany

11 October 2016 - Publisher: Clinical Interventions in Aging

...interventions in two geriatric wards (orthogeriatric ward and geriatric day unit) of a general...the interventions carried out on the orthogeriatric ward at admission and at discharge were...the patients who were admitted in an orthogeriatric ward. Materials and methods ...

Read Summary

Patterns of prescription drug use before and after fragility fracture

12 October 2016 - Publisher: JAMA Internal Medicine

...drugs associated with fracture risk is infrequently reduced following fragility fracture occurrence. While some...drugs associated with fracture, an equal number initiate...contributing to secondary fractures. Invited Commentary...

Read Summary

A systematic review and economic evaluation of bisphosphonates for the prevention of fragility fractures

Source: Centre for Reviews and Dissemination Health Technology Assessments - CRD HTA - 01 November 2016

...the prevention of fragility fractures Davis S, Martyn...prevention of fragility fractures. Health Technology Assessment...prevention of fragility fracture and to assess their...varying levels of fracture risk. Fragility fractures are fractures that...

Read Summary

Delirium prevention in elderly population with hip fracture using ultrasound guided femoral block

Source: BestBETS - 09 November 2016

...the management of delirium in hip fracture in the elderly. References...60 falls with hip fractures: A pilot study of...Interventions for Hip Fracture: A Systematic Review...nerve block for femur fractures. Christos SC, Chiampas...and Function in Hip Fracture, Anderson Cancer...NCT00749489?term=delirium+AND+hip+fracture...

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Overview of geriatric rehabilitation: Patient assessment and common indications for rehabilitation

Authors: Helen Hoenig, MD, MPH Cathleen Colon-Emeric, MD

All topics are updated as new evidence becomes available and our peer review process is complete.

Literature review current through: Nov 2016. | **This topic last updated:** Apr 25, 2016.

The primary purpose of rehabilitation is to enable people to function at the highest possible level despite physical impairment. While rehabilitation may be provided to all age groups, the fastest growing population of persons requiring rehabilitation services is adults over 65 years of age.

This topic will discuss assessing patients for rehabilitation services and indications for rehabilitation. Issues regarding comprehensive geriatric assessment, disability assessment, and components and settings for rehabilitation are discussed separately. (See "Comprehensive geriatric assessment" and "Disability assessment and determination in the United States" and "Overview of geriatric rehabilitation: Program components and settings for rehabilitation".)

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Current Awareness Database Articles related to Orthogeriatrics

Below is a selection of articles related to orthogeriatrics recently added to the healthcare databases, grouped in the following categories:

- **Medical**
- **Patient care and management**
- **Psychological**
- **Other**

If you would like any of the following articles in full text, or if you would like a more focused search on your own topic, then get in touch: library@uhbristol.nhs.uk

Medical

Chest X-ray for hip fractures: Are we missing anything?
Author(s): Rawle M.J.; Mieiro L.; Purcell R.
Source: European Geriatric Medicine; Oct 2016; vol. 7
Abstract: Background: Many feel that a pre-operative chest x-ray (CXR) in hip fracture patients is important to optimise management and avoid delay to surgery [1]. However, relevance of CXR for otherwise presumed healthy individuals aged 60 and older is contentious [1][2]. The authors investigate the outcome of routine CXR for hip fracture patients in clinical practice. Methods: Exploratory analysis of routinely collected data in an orthogeriatrics ward of a British University Hospital over a 5-month period. All patients aged 60 and over admitted with hip fracture were included. CXRs conducted at presentation were reviewed by Radiologist and Geriatrician for pathology and then contrasted with any repeat CXR conducted during the same admission. Results: 130 cases retrieved, of which 127 had an initial CXR. Pathology was identified in 28% of cases. During the same admission, 47% required repeat CXR. Comparison was drawn to the initial x-ray. Of these, a further 22 cases showed new pathology. More than a half showed new consolidation. Other findings included pulmonary oedema and lung nodules. Overall, 56% of the initial CXRs conducted were relevant in the immediate or later management. Those more likely to have positive findings were older, frail and had dementia. Nonetheless, pathology was evident across all age groups. Conclusions: Almost a third of patients admitted with hip fracture had a pathological CXR. Half of conducted CXRs had a direct impact on the patients' medical management. Therefore, a routine pre-operative CXR as a baseline for patients over 60 should be included in hip fracture clinical pathways.

Increased orthogeriatrician involvement in hip fracture care and its impact on mortality in England.

Author(s): Neuburger, Jenny; Currie, Colin; Wakeman, Robert; Johansen, Antony; Tsang, Carmen; Plant, Fay; Wilson, Helen; Cromwell, David A; van der Meulen, Jan; De Stavola, Bianca
Source: Age and ageing; Dec 2016
Abstract:to describe the increase in orthogeriatrician involvement in hip fracture care in England and its association with improvements in time to surgery and mortality. analysis of Hospital Episode Statistics for 196,401 patients presenting with hip fracture to 150 hospitals in England between 1 April 2010 and 28 February 2014, combined with data on orthogeriatrician hours from a national organisational survey. we examined changes in the average number of hours worked by orthogeriatricians in orthopaedic departments per patient with hip fracture, and their potential effect on mortality within 30 days of presentation. The role of prompt surgery (on day of or day after presentation) was explored as a potential confounding factor. Associations were assessed using conditional Poisson regression models with adjustment for patients' sex, age and comorbidity and year, with hospitals treated as fixed effects. between 2010 and 2013, there was an increase of 2.5 hours per patient in the median number of hours worked by orthogeriatricians-from 1.5 to 4.0 hours. An increase of 2.5 hours per patient was associated with a relative reduction in mortality of 3.4% (95% confidence interval 0.9% to 5.9%, P = 0.01). This corresponds to an absolute reduction of approximately 0.3%. Higher numbers of orthogeriatrician hours were associated with higher rates of prompt surgery, but were independently associated with lower mortality. in the context of initiatives to improve hip fracture care, we identified statistically significant and robust associations between increased orthogeriatrician hours per patient and reduced 30-day mortality.

Factors associated with receiving anti-osteoporosis treatment among older persons with minimal trauma hip fracture presenting to an acute orthogeriatric service
Author(s): Gunathilake R.; Epstein E.; Walsh B.; McNeill S.
Source: Injury; Oct 2016; vol. 47 (no. 10); p. 2149-2154
Abstract: Background/Aim The aim of this study was to investigate factors that were associated with receiving anti-osteoporosis treatment (AOT) among patients with minimal trauma hip fracture admitted to an Australian tertiary trauma centre under the Acute Orthogeriatric Service (AOS) over a 6 month period. Design Observational study using prospectively collected data. Methods Demographic and clinical characteristics of 211 patients were extracted from the local hip fracture registry and electronic medical records. The outcome measure was receipt of AOT before separation from the AOS. Binary logistic regression was used to identify factors independently associated with treatment. Results 91 (45%) patients received AOT, including 51 (25.2%) treatment-naive patients. Factors significantly associated with receiving treatment included higher serum vitamin D level (OR 1.44, 95% CI 1.23-1.70, p < 0.001) and trochanteric vs. cervical fracture (OR 2.67, 95% CI 1.30-5.49, p = 0.007). Living in a residential aged care facility (RACF) prior to the index fracture (OR 0.2, 95% CI 0.08-0.54, p = 0.001) and higher American Society of Anaesthesiologists (ASA) physical status score (OR 0.5, 95% CI 0.25-0.98, p = 0.04) significantly lowered the likelihood of treatment. Age, gender, cognitive impairment, premorbid walking ability, previous fragility fracture and renal impairment did not correlate with treatment. Conclusion A significant proportion (55%) of hip fracture patients did not receive AOT in hospital. The probability of receiving treatment appears to be significantly

associated with serum vitamin D level, fracture type, place of residence and comorbidity burden. Copyright © 2016

Hip fracture mortality and grip strength. Any relationship?
Author(s): Neira Alvarez M.; Arias Munana E.; Morales Fernandez A.; Bielza Galindo R.; Gomez Cerezo J.F.
Source: European Geriatric Medicine; Oct 2016; vol. 7
Abstract: Objective: To identify variables related to mortality after hip fracture treatment in elders. Methods: This prospective observational study included 127 patients who were admitted to Orthogeriatric Unit of Infanta Sofia's Hospital for hip fracture surgery from April 2013 to April 2014. The main objective was to evaluate the impact of grip strength as predictor of functional recovery. This is a mortality sub analysis. At the time of admission were recorded: age, sex, functional status (Barthel Index), mental status (Cruz Roja Index) and hand grip strength. Follow-up was performed 3 months after discharge to assess functional status and survival. Results: Out of 127 subjects,103werewomen and 24were men. Mean age was 85,1 +/- 0,6 years. Hand grip strength was obtained in 85 patients (76.5%), values were between 3,3 and 24,8 Kg and 81 patients (95,2%) had values below cut-point for sarcopenia. 19 patients died during the three months follow up (15%). Hand grip strength was obtained in nine of them; mean value was 10,7 +/- 0,5 Kg and no relation was founded between grip strength and mortality (p = 0,79). By simple linear logistic analysis sex (p = 0,03) and Barthel Index (p = 0,01) at admission shown relation to mortality. In the multiple linear regression sex was the most strongly associated with mortality (p = 0,02). Conclusions: Hip fracture has a significant impact on mortality among elders. Hand grip strength had no relationship with mortality in hip fracture patients. Factors related to mortality were sex and previous functional status.

How can opiate prescribing be optimised in orthogeriatrics? An audit in a district general hospital setting
Author(s): Heath L.; Kannan A.; Moss J.
Source: European Geriatric Medicine; Oct 2016; vol. 7
Abstract: Introduction: In the UK, two billion pounds is spent annually on the direct healthcare costs of hip fractures alone. To reduce further morbidity, mortality and cost, early mobilisation of the orthogeriatric population is essential, for which there is often a role for strong/ weak opiates. This patient cohort is particularly at risk of opiate toxicity and side-effects. Appropriate, anticipatory prescribing is essential. Methods: Drug charts of 50 inpatients were assessed against 2 standards: 1. Regular laxative, PRN anti-emetic and PRN naloxone with every opiate prescription. 2. Maximum of one regular and one PRN opiate prescribed. Two interventions were commenced. Firstly, the ward round proforma was edited to include an "opiate" box so the clinician was prompted to assess this prescription. Secondly, an educational awareness campaign was initiated on the ward. Four months later, 50 drug charts were re-audited against the same standards. Results: The number of correctly prescribed anti-emetics increased from 80% to 96%; laxatives from 76% to 90%; and naloxone from 16% to 80%. Inappropriate, simultaneous opiate prescriptions were eliminated with the number of 2+ regular opiates down from 2% to 0% and number of 3+ PRN opiates reduced from 36% to 0%. Key conclusions: Simple measures at a local level can have a significant impact on safe opiate prescribing practices in this population. A ward

round proforma with targeted prompts is an effective way to increase clinician adherence to prescribing standards.

A comparison of patient characteristics and outcomes between patients admitted to hospital with vertebral fragility fractures and hip fractures
Author(s): Walters S.; Ong T.; Sahota O.
Source: European Geriatric Medicine; Oct 2016; vol. 7
Abstract: Introduction: Orthogeriatric care has been advocated in vertebral fragility fractures (VFF) management to deliver the same benefits seen in HF care. Development of such a model needs a robust evidence base. This study aims to describe patient characteristics and outcomes of those admitted to hospital with VFF compared with HF patients. Methods: A retrospective study of 30 HF and 24 VF patients admitted to the trauma unit and spinal unit was conducted. Data was collected on patient characteristics, admission details and discharge outcomes. Results: VFF patients were younger [mean(SD) age: 67.7(12.9) vs 84.5 (7.5), p 4 medication [67% vs 40%, p = 0.05], number of co-morbidities [p = 0.26], outdoor mobility [67% vs 50%, p = 0.26] and use of walking aid [55% vs 60%, p = 0.73]. At 6 months, no recorded mortality for VFF, but 20% in the HF group. The median length of stay for VFF was 9 days and 14.5 days for HF (p = 0.04). More hip fracture patients needed higher carer input upon discharge. Conclusions: This VFF cohort is not fully representative of hospitalised VFF patients as the majority of them are managed non-operatively outside the spinal unit. In this analysis, although HF patients appear frailer than VF patients, there are similarities between these groups in terms of co-morbidities, polypharmacy, mobility and vitamin D deficiency, which provide similar opportunities for optimization of health status, bone health and prevention of further fractures. Further work is needed to evaluate the role of orthogeriatric care in VFF management in hospital.

Total hip replacement for hip fracture: Surgical techniques and concepts.
Author(s): Coomber, Ross; Porteous, Matthew; Hubble, Matthew J W; Parker, Martyn J
Source: Injury; Oct 2016; vol. 47 (no. 10); p. 2060-2064
Abstract: When treating a hip fracture with a total hip replacement (THR) the surgical technique may differ in a number of aspects in comparison to elective arthroplasty. The hip fracture patient is more likely to have poor bone stock secondary to osteoporosis, be older, have a greater number of co-morbidities, and have had limited peri-operative work-up. These factors lead to a higher risk of complications, morbidity and perioperative mortality. Consideration should be made to performing the THR in a laminar flow theatre, by a surgeon experienced in total hip arthroplasty, using an anterolateral approach, cementing the implant in place, using a large head size and with repair of the joint capsule. Combined Ortho-geriatric care is recommended with similar post-operative rehabilitation to elective THR patients but with less expectation of short length of stay and consideration for fracture prevention measures.

Impact of pharmacist interventions in older patients: A prospective study in a tertiary hospital in Germany
Author(s): Cortejoso L.; Hofmann G.; Sattler A.; Dietz R.A.; Gosch M.
Source: Clinical Interventions in Aging; Sep 2016; vol. 11 ; p. 1343-1350
Abstract: Background: Inappropriate pharmacotherapy among older adults remains a critical issue in our health care systems. Besides polypharmacy and multiple comorbidities, the age-

related pharmacokinetic and pharmacodynamic changes may increase the risk of adverse drug reactions and medication errors. Objective: The main target of this study was to describe the characteristics of pharmaceutical interventions in two geriatric wards (orthogeriatric ward and geriatric day unit) of a general teaching hospital and to evaluate the clinical significance of the detected medication errors. Materials and methods: The study was conducted between August 2014 and October 2015 and was based on a triple approach that included validation of medical orders, medication reconciliation at patients' admission, and a predischarge planning appointment with the patient. The validation of medical orders was based on analyzing the suitability of the drugs prescribed, the drug dose depending on the patient's characteristics, the presence of contraindications and interactions between drugs, and the proposal of alternative drugs included in the hospital formulary. Results: A total of 2,307 interventions associated to a medication error in 15,282 medical orders for 1,859 older patients were recorded. The greater part of the interventions carried out on the orthogeriatric ward at admission and at discharge were due to omission of a drug in the medical order (20.0%) and clinically significant interactions requiring monitoring (30.4%), respectively. The main factor triggering pharmacist's recommendations on the geriatric day unit was clinically significant interactions (21.1%). With regard to the clinical severity of the detected errors, 68.1% were considered significant, 24.8% were of minor significance, and 7.2% were clinically serious. Conclusion: Our findings show the importance of clinical pharmacist involvement in the optimization of pharmacotherapy in older adults, ensuring that they receive effective, safe, and efficient drug therapy.

Patient care and management

Orthogeriatrics unit: An opportunity to medication reconciliation in the elderly with hip fracture

Author(s): Perez Lopez R.; Luis M.M.; Pablos Hernandez C.; Gonzalez Ramirez A.; Julian Enriquez J.M.; Blanco Blanco J.F.

Source: European Geriatric Medicine; Oct 2016; vol. 7

Abstract: Introduction: The elderly with hip fracture register a common prescription habit of 8 medicines, with possible adverse reactions - inadequate polypharmacy. Objective: Therapeutic Adjustements (TA) in patients with hip fracture admitted in an Orthogeriatric Unit were performed. Its registration and follow up were pursued. Material and methods: Epidemiologic, observational, descriptive study performed during 30th April 2015 - 8th June 2015. Population: elderly patients with admission diagnosis in an Orthogeriatrics Unit of hip fracture in this period of time. Pharmacological treatment information sources: MedoraR, JimenaR, FarmatoolsR, anamnesis. Bibliographic sources: STOPP-STARTR criteria. Database and its analysis: File MakerR. Results: 189 TA were registered in 58 patients (42 women, 16 men). Mean age 86 (+/-8) year-old. 3,7 TA were registered per patient and 6,2 per workday. The most frequent TA implied were: 46 medicines were switched because of absence in hospital pharmacological guide (mainly ARA II and statins). Posology adjustment to admission's clinical situation was performed in 16 of 20 TA: antihypertensives in 9 AT and oral antidiabetics in 7. More adequate medicines in the frail patient were the option in 10 of the 12 TA, 8 of which being psychotropic agents. Conclusion: The elderly admission in an Orthogeriatric Unit due to hip fracture may be a golden opportunity to review and adjust

pharmacological treatment in inadequate polypharmacy. Antihypertensive drugs, statins, oral antidiabetics and psychotropic agents were the most often adjusted medicines.

The role of the ortho-geriatrician in the management of the patient with fracture
Author(s): Hammami S.; Meziani A.; Almas I.; Dumont C.H.; Latteur V.
Source: European Geriatric Medicine; Oct 2016; vol. 7
Abstract: Objectives: The management of fragility, fractures requires a collaborative multi-disciplinary approach to care optimal patient outcomes. The Orthogeriatric Unit has been shown to be one of the most beneficial units. It is important to evaluate the model of care admission to orthogeriatric units improves clinical outcomes for patients with hip fracture. patient with hip fracture, due to their characteristics, require a specific care. The aim of this study were to compare the patient profile at orthogeriatric unit and classic geriatric unit Methods: This is a partially concurrent prospective study, taking place in a large urban academic hospital GHdC in Belgium. The participants were 87 consecutive elderly people, admitted directly to a geriatricbased orthogeriatric ward (ORTG). 107 patients were admitted to the geriatric unit (GG). Results: The two groups were similar, yet ORTG patients were somewhat older (85.2 vs 83.8 years, $p < 0.07$), were cognitively better preserved (MMSE: 20.6 vs 17.4, $p < 0.01$), have a lower ADL score (12.2 vs 14.2, $p < 0.02$) and Vit D level (17.9 vs 21.2 ng/mL $p < 0.001$). Patients of the ORTG have more confusion compared to GG (55% vs 32%, $p < 0.001$). The MNA score, Tinetti and The length of hospital stay were similar for the two groups. Conclusion: This study contributes to the increasing body of evidence for best practice in the management of elderly patients after fracture in the orthogeriatric unit to benefit from multidisciplinary expertise. Admission to orthogeriatric units improves clinical outcomes for older patients with a geriatric profile.
The Challenges of Anaesthesia and Pain Relief in Hip Fracture Care.
Author(s): Cowan, Rachel; Lim, Jun Hao; Ong, Terence; Kumar, Ashok; Sahota, Opinder
Source: Drugs & aging; Dec 2016
Publication Date: Dec 2016
Abstract: The care of the older person with hip fracture is complicated by their comorbid condition, limited physiological reserve, cognitive impairment and frailty. Two aspects of hip fracture management that have received considerable attention are how best to manage the pain associated with it and the ideal mode of anaesthesia. Existing literature has reported on the suboptimal treatment of pain in this orthogeriatric cohort. With recent advancements in medical care, a number of options have emerged as alternatives to conservative systemic analgesia. Systemic analgesia, such as opioids, can lead to untoward side effects, especially in this particular group of patients. Hence, peripheral nerve blocks, epidural analgesia and regional anaesthesia have emerged as options in the delivery of adequate pain relief in hip fractures. Besides that, there is ongoing debate regarding the appropriate anaesthesia technique for surgical repair of the fractured hip. The benefits and risks related to either spinal anaesthesia or general anaesthesia have been subject to studies determining which method is associated with better short- and long-term outcomes. In this review, we aim to examine the evidence behind the different analgesia options available, compare spinal and general anaesthesia, and discuss the importance of the multidisciplinary orthogeriatric model of care in hip fracture and its potential role in other fragility fractures.

Outcome parameters in orthogeriatric co-management - a mini-review

Author(s): Komadina R.; Wendt K.W.; Holzer G.; Kocjan T.
Source: Wiener Klinische Wochenschrift; Nov 2016 ; p. 1-5
Abstract: Summary: Recognizing hip and other fragility fractures as an adverse event of chronic geriatric conditions led to the concept of orthogeriatric co-management (OGC). OGC today represents various forms of structural cooperation between orthopedic trauma surgeons and multiprofessional geriatric teams taking care of frail elderly patients. The models are country specific. Despite several published models there are still no clear recommendations on how this service should be best organized. The 12 outcome parameters published by the Experts' Roundtable in 2013 were recommended to be used for the further assessment of different OCG models. This literature review was prepared accordingly and showed the need for further studies to determine the best OGC model and to define a uniform set of outcome parameters for use in future clinical studies. Copyright © 2016 Springer-Verlag Wien

Postoperative mortality after hip fracture surgery: A 3 years follow up
Author(s): Kilci O.; Un C.; Sacan O.; Gamli M.; Baskan S.; Baydar M.; Ozkurt B.
Source: PLoS ONE; Oct 2016; vol. 11 (no. 10)
Abstract: Background and Aims: To determine mortality rates and predisposing factors in patients operated for a hip fracture in a 3-year follow-up period. Methods: The study included patients who underwent primary surgery for a hip fracture. The inclusion criteria were traumatic, non-traumatic, osteoporotic and pathological hip fractures requiring surgery in all age groups and both genders. Patients with periprosthetic fractures or previous contralateral hip fracture surgery and patients who could not be contacted by telephone were excluded. At 36 months after surgery, evaluation was made using a structured telephone interview and a detailed examination of the hospital medical records, especially the documents written during anesthesia by the anesthesiologists and the documents written at the time of follow-up visits by the orthopaedic surgeons. A total of 124 cases were analyzed and 4 patients were excluded due to exclusion criteria. The collected data included demographics, type of fracture, co-morbidities, American Society of Anesthesiologists (ASA) scores, anesthesia techniques, operation type (intramedullary nailing or arthroplasty; cemented-noncemented), peroperative complications, refracture during the followup period, survival period and mortality causes. Results: The total 120 patients evaluated comprised 74 females(61.7%) and 46 males(38.3%) with a mean age of 76.9-12.8 years (range 23-95 years). The ASA scores were ASA I (0.8%), ASA II (21.7%), ASA III (53.3%) and ASA IV (24.2%). Mortality was seen in 44 patients (36.7%) and 76 patients (63.3%) survived during the 36-month follow-up period. Of the surviving patients, 59.1% were female and 40.9% were male. The survival period ranged between 1-1190 days. The cumulative mortality rate in the first, second and third years were 29.17%, 33.33% and 36.67% respectively. The factors associated with mortality were determined as increasing age, high ASA score, coronary artery disease, congestive heart failure, Alzheimer's disease, Parkinson's disease, malignancy cementation and peroperative complications such as hypotension ($p<0.05$). Mortality was highest in the first month after fracture. Conclusion: The results of this study showed higher mortality rates in patients with high ASA scores due to associated co-morbidities such as congestive heart failure, malignancy and Alzheimer's disease or Parkinson's disease. The use of cemented prosthesis was also seen to significantly increase mortality whereas no effect was seen from the anesthesia technique used. Treatment of these patients with a multidiciplinary approach in an orthogeriatric ward is

essential. There is a need for further studies concerning cemented vs. uncemented implant use and identification of the best anesthesia technique to decrease mortality rates in these patients.

Outcomes in an orthogeriatrics Portuguese unit
Author(s): Leal-Seabra F.; Sarmento G.; Brinquinho M.; Verissimo R.; Agripino A.
Source: European Geriatric Medicine; Oct 2016; vol. 7
Abstract: Background: Hip fracture is common in older adults and is associated with high morbidity, mortality and a common cause of long hospital stay in the elderly. A pilot orthogeriatric unit was established in a Portuguese Tertiary Hospital in October 2015 to ascertain if such a unit would improve patient outcomes. The aim of this study is to evaluate the efficiency of a multidisciplinary team. Methods: A retrospective cohort study was performed between October 2015 and April 2016. We assessed hospital length of stay and time to perform surgery, the degree of prior functional dependence in admission and discharge of the unit, comorbidities, complications and mortality. Results: Of 110 elderly had median age 83.5 (max 100 years and minimum65 years); 84.5%werewomen. The hospital stay was 8.1 days and the average time to perform surgery of 2.88 days. The degree of functionality prior to event was 40.9% Katz A and 73.6% had mRankin = <2. Were identified comorbidities in 84.5% of patients and the complications, the prevalence of anemia was (53.03%) and urinary tract infections (19.70%). There was a gain in functionality regarding in admission to the unit in 82.7% and to the previous functional status of 24.5% (p = .0001). As to mortality we had 0.9% and 82.7% were discharged to home. Conclusion: Our study indicates that co-management of hip fracture patients by multidisciplinary team is effectiveness in the control of comorbidities, reduced complications, gains in functionality and low mortality. The concept should be further developed particularly among the frail elderly.

Understanding different approaches to orthopaedic-geriatric collaboration: Using the National Hip Fracture Database (NHFD) to develop a system of classification
Author(s): Boulton C.; Burgon V.; Johansen A.; Martin F.; Neuburger J.; Rao S.; Wakeman R.; Wilson H.
Source: European Geriatric Medicine; Oct 2016; vol. 7
Abstract: Introduction: In recent years increased orthogeriatric collaboration has transformed hip fracture care in the UK, with hospitals developing approaches that reflect historical considerations and the enthusiasms of local clinicians. Methods: In 2015 the National Hip Fracture Database (NHFD) questioned all 177 hospitals which admit patients with hip fracture in England, Wales and Northern Ireland - to define the nature and intensity of orthogeriatric input and inform the development of a classification system. Results: All units replied. Six models were identified. Most units described one of two models; 75 (42%) reporting "routine orthogeriatric review" and 78 (44%) "shared care". Seven (4%) admitted patients directly under a geriatrician. Nine (5%) routinely transferred patients to geriatricians post-op. One unit has all care bya hip fracture specialist surgeon. Seven (4%) retain a "traditional model" with orthogeriatric review on request. This dominance of "routine orthogeriatric review" and "shared care" was seen within Wales and Northern

Ireland, with these models in ten out of thirteen and all four hospitals respectively. Performance measures were poorer in units with a "traditional model", which tended to be smaller. Only 63.9% of their patients received surgery by the next day, cf. >70% in units with integrated models of orthogeriatric care. Conclusions: Comparison of performance and outcomes of different approaches requires clarity over the model of the service in each unit. We are using these results to develop a classification that distinguishes between pre-/peri-operative care and post-operative elements of care to support comparisons of services across different countries.

Outcomes in an orthogeriatrics Portugues unit
Author(s): Gomez N.; Silva D.; Arderius M.; Jordao A.
Source: European Geriatric Medicine; Oct 2016; vol. 7
Abstract: Introduction: Pernicious anemia accounts for 80% of case of megaloblastic anemia. It is an autoimmune disorder with an insidious clinical course and highly variable clinical spectrum, including constitutional, neurological, hematological and gastrointestinal symptoms. A systematic approach is essential for the establishment of a definitive diagnosis and institution of an appropriate treatment plan. Case Report: A 76 year-old woman living in Portugal, with a personal history of asthma and chronic venous insufficiency, under no chronic medication and having regular nutritional habits, who was admitted for investigation of a clinical picture of asthenia, anorexia, 6% of body weight, symmetric lower limb paresthesias and cognitive impairment with 6 months of evolution. At physical examination normal cognitive function and pallor of the skin and mucous membranes. Laboratory tests showed pancytopenia (WBC) of 2.10 x 109/L, with macrocytic anemia (Hgb) 7.1 g/dL and platelets 71.000 x 109/L. Evidence of hemolysis on peripheral blood smear, haptoglobin <8 mg/dL and lactate dehydrogenase 1,528 U/L. Significantly, vitamin B12 was low <108 pg/mL, and testing for parietal cell, and intrinsic factor antibodies resulted positive, confirming the diagnosis of pernicious anemia. For further investigation she underwent an upper gastrointestinal endoscopy, which described atrophic gastritis of the body of the stomach, The patient began intramuscular cyanocobalamin replacement therapy, with clinical stability and reversion of symptoms and hematologic disturbances Conclusion: The diagnosis of anemia in the elderly is important to investigate and treat the underlying cause. Aging, by itself, is not a cause of anemia. When pancytopenia exists as initial presentation, the etiologic diagnosis is complex. Early testing should be encouraged as the treatment is simple and procures a good prognosis.

Has patient's with hip fracture profile changed?
Author(s): Martin De Francisco E.; Alvira Rasal B.; Garcia Gomez E.; Malanga Ferrari A.; Garcia Fernandez J.
Source: European Geriatric Medicine; Oct 2016; vol. 7
Abstract: Introduction: We aim to evaluate the evolutionary changing characteristics of patients admitted to our Orthogeriatric Unit over the last five years. Methods: Retrospective descriptive study of patients over 65 years old admitted for hip fracture to Hospital Infanta Elena Valdemoro (Madrid). We collected twenty five socio demographic, functional and cognitive status concerning variables and analyzed them with SPSS program. Results: The sample consists of a total of 138 patients corresponding to 73 incomes taken place from June to December 2015 and 65 income from June to December 2010. In the first group the mean age was 85.23 years old (with 30.13% of nonagenarian), of whom 60.27% were

women compared with an average age of 81.4 years, and 56% women in the second group. In 2015 many of our patients came from nursing homes (39.8% versus 26% in 2010) and a considerable percentaje (20%) of falls occurred during the night (this fact is presumably due to the restriction of staff developed in recent times). Mean Barthel score was 66/100 for the first group and 77/100 for the second, with a similar average GDS scale score in both groups 2-3/7. Conclusions: It is suspected to be an emergent tendency to longevity with a higher average age at the expense of increased morbidity and mortality and also more institutionalization at discharge because of poorer functional and cognitive outcomes, which represents a continuous challenge for the specialty in improving elderly quality care.

Psychotropic medication reconciliation: Considering orthogeriatric unit admission a chance of therapeutic switch
Author(s): Gonzalez Ramirez A.; Perez Lopez R.; Luis M.M.; Pablos Hernandez C.; Julian Enriquez J.M.; Blanco Blanco J.F.
Source: European Geriatric Medicine; Oct 2016; vol. 7
Abstract: Introduction: The geriatric patient is particularly susceptible to serious side effects (falls, delirium, daily somnolence) of psychotropics (benzodiazepines, hypnotics, neuroleptics). Therefore, its withdrawal could possibly improve their quality of life. When considering psychotropic withdrawal, trazodone presents an ubiquitary action and a safe profile. Objectives: To implement a psychotropic prescription withdrawal by alternative prescription of trazodone in an Orthogeriatric Unit during hip fracture perioperative period. Material and methods: Retrospective observational descriptive study. Population: 65-year-old patients or older with hip fracture consecutively admitted in an Orthogeriatric Unit (June 2015 - May 2016). Inclusion criteria: on >3 month psychotropic treatment, eventual psychotropic side effects. Source: Medora, Farmatools, anamnesis and global geriatric assessment file. Database and statistical analysis: FilemakerPro. Results: N = 51 patients; 82.4% women; mean age 88 years old; 8.6 medicines per patient; 6 patients: more than 1 medicine withdrawal; 34 immediate replacement; 10: dose reduction; 9: posology frequency reduction. Removal of 44 benzodiazepines, 5 hypnotics, 2 tricyclic antidepressant. 100% started trazodone as an alternative treatment. Prescription follow up monitoring: 42 patients maintained prescription switch recommendation. Conclusion: In patients presenting psychotropic adverse side effects, trazodone could be an adequate therapeutic alternative on psychotropic withdrawal. The stay in Orthogeriatric Units due to hip fracture could be a suitable moment to assess the convenience of withdrawal, reduction or substitution of some chronic medications, specially psychotropics.

Delaying hip fracture surgery increases perioperative complications
Author(s): Garcia-Cabrera L.; Vaquero Pinto N.; Miret Corchado C.; Fernandez-Villaseca S.; Montero Errasquin B.; Alvarez Nebreda M.L.; Cruz-Jentoft A.J.
Source: European Geriatric Medicine; Oct 2016; vol. 7
Abstract: Introduction: To analyze the differences in clinical outcomes and mortality related to surgical delay (>48 hours) in older patients with hip fracture. Methods: Prospective study in patients >80 with hip fracture admitted to an Orthogeriatric Unit for surgical replacement. Data about social, functional and cognitive status, type of fracture/surgery, time to surgery, length of stay, medical/surgical complications and mortality during hospitalization were collected. The patients were divided into two groups according to surgical delay (before o later than 48 hours from admission) to compare outcomes. Results:

468 patients. 79% women, mean age 87 +/- 5. Barthel 75 +/- 25, FAC 4 +/- 1. 33% dementia. 22% in nursing homes. MNA:10 +/- 2. Mean ndegree comorbidities: 3 +/- 2. Mean ndegree drugs before admission: 6 +/- 3. 58% per/ subtrochanteric fractures. 33% were operated in the first 48 hours. Mean time until surgery: 4 +/- 3 days. Mean length of stay:14 +/- 7 days. Mortality during hospitalization: 4%. Comparing both groups, there was a higher number of medical complications in patients undergoing surgery after 48 hours (80.9% vs 70.1%, p = 0.009), specially urinary infection (30.3% vs 20.8%, p = 0.03) and pressure sores (14 vs 6.5%, p = 0.017) with a trend for increased frequency of delirium (47.1% vs 39.6%), respiratory infection (15.6% vs 11.7%) and renal failure (15.6% vs 12.3%). This group also had a higher number of comorbidities (3 +/- 2, p = 0.002), higher mortality (4.8%vs 2.6%, p = 0.26) and longer length of stay (15.5 vs 11.5 days, p = 0.34). Conclusions: In our population, the group of patients undergoing surgery later than 48 hours from admission has higher comorbidity and medical complication rates (mainly, urinary infection and pressure sores).

Validity of three risk prediction models to predict 1-year mortality in hip fracture patients
Author(s): Menendez-Colino R.; Gonzalez-Montalvo J.I.; Alarcon T.; Queipo R.; Otero A.
Source: European Geriatric Medicine; Oct 2016; vol. 7
Abstract: Introduction: Mortality is high after hip fracture (HF). It is useful to know what patients are in a higher risk of mortality in order to implement preventive interventions. Several scoring instruments have been applied to predict this mortality risk. Objective: To identify the most accurate predictor of one-year mortality following HF. Methods: In a sample of 509 consecutive HF patients admitted at an acute Orthogeriatric Unit University Hospital three prognostic scores (Abreviated Charlson Index -AChI-, American Society of Anesthesiologists -ASA- Scale, and The Nothinghan Hip Fracture Score -NHFS-) were applied in the first 72 hours from admission. Cutoffs were >2 for ASA, >2 for AChI and >4 for NHFS. Patients were assessed for survival 1 year after discharge. Results: Mean age was 85.6 (+/- 6.9) years, 89.2% were women. Overall 1-year mortality was 23.2%. Sensitivity to predict 1-year mortality was 53% for AChI, 86% for ASA and 91% for NHFS. Unadjusted 1-year mortality Odds Ratio (OR) (CI 95%) were 2.16 (1.48-3.15) for AChI, 3.29 (1.88-5.78) for ASA, and 4.99 (2.67-9.31) for NHFS (all with p < 0.001). Age and sex adjusted 1-year mortality OR (CI 95%) were 1.90 (1.30- 2.81) for AChI (p = 0.001), 2.90 (1.64-5.12) for ASA (p < 0.001), and 4.02 (2.10-7.81) for NHFS (p < 0.001). Conclusions: The three scoring instruments analysed showed a good accuracy for predicting 1-year mortality. The Nothinghan Hip Fracture Score showed the best discriminative performance.

Outcomes after hip fracture in patients aged 90 and older
Author(s): Meadows L.; D'Souza O.; Watkin D.
Source: European Geriatric Medicine; Oct 2016; vol. 7
Abstract: Introduction: The populations of industrialised countries are ageing, with subsequent increases in the number of people living with frailty, dependency and disability and the consequent need for costly nursing and social care. Falls and hip fracture are a common cause of hospitalisation in elderly people and result in significant disability, morbidity and mortality [1, 2]. Outcomes for patients undergoing surgery for hip fracture in the UK are well established through the National Hip Fracture database [3]. Knowledge about outcomes including survival, functional status and walking ability in the nonagenarian subgroup is limited [4-7]. Methods: 50 nonagenarian patients admitted with hip fracture to Scarborough Hospital were identified using the hospital's hip fracture database. All fracture

types were included. Patient medical, operative, physiotherapy and occupational therapy records were retrospectively reviewed. 48 patients underwent surgery and all followed a similar post operative protocol with mobilisation on the first day if possible, regular orthogeriatric review, and low-molecular weight heparin administration for 1 month post operatively. Time to surgery, ASA grade, operative procedure and length of stay were recorded. The patients' pre and post-operative mobility and place of residence were defined. 30 day and 120 day mortality was calculated. Results: We identified 37 females (mean age 93.5 years, range 90-100) and 13 males (mean age 93.2 years, range 90-100). Of these 48 underwent surgery to repair a hip fracture. A total of 16 patients (32%) died during followup. 30 day mortality was 16% (8 deaths) and 120 day mortality was 28% (14 patients). The mean time to surgery was 27.21 hours (range 4.92-117.08). Average length of stay was 30.32 days (range 2-59). The median ASA score was 3 (60% of patients undergoing surgery) reflecting indicators of poor health status in this group. 20 patients (42% of the patients who underwent surgery) received spinal anaesthesia and 25 patients (52%) received a general anaesthetic. Conclusions: The outcome of surgical management followed by rehabilitation for nonagenarians presenting to Scarborough Hospital with hip fractures is favourable in selected patients despite many having multiple co-morbidities and high anaesthetic risk. Patients aged 90 years or older with hip fracture achieve surprisingly good outcomes and many are able to return home with preserved independence after operative intervention and appropriate rehabilitation.

Reducing pneumonia and delirium in hip fracture patients by implementation screening for dysphagia

Author(s): Kriekaart R.L.; Wijnen H.H.; Boom T.T.; Hekma E.J.; Roovers L.

Source: European Geriatric Medicine; Oct 2016; vol. 7

Abstract: Introduction: Pneumonia is an important cause of hospital mortality in frail patients after hip fracture surgery. A recent study suggests a high prevalence of oropharyngeal dysphagia (OD) in these patients [Love et al. 2013]. We hypothesized OD-screening would decrease post-operative pneumonia in hip fracture patients, as it does in patients after cerebrovascular disease [Brady et al. 2016]. Methods: Data were collected for a retrospective cohort study including all post-operative hip fracture patients on an orthogeriatric ward in Rijnstate hospital. The control group consisted of patients admitted from January 2013 until November 2014. All patients from November 2014 until December 2015 were screened for OD (intervention group). Data were extracted from electronic patient records including age, sex, frailty, death during admittance, diagnosis delirium and pneumonia . Results: 814 patients were included. The control group consisted of 481 patients, average age 83.4 years +/- 6.6, average ASA score 2.6 +/- 0.7 and 18.5% living in a nursing home. In the intervention group 333 patients were included, average age 83.7 years +/- 7.2, average ASA score 2.5 +/- 0.7 and 16.0% living in a nursing home. In comparison to the control group OD screening resulted in a significant reduction of pneumonia from 10.4% to 5.7% ($p < 0.05$) and a reduction in delirium from 42.6% to 28.5%($p < 0.05$). In-hospital mortality decreased from 4.2% to 2.7% (not significant). Conclusion: OD-screening resulted in a significant decrease of pneumonia and delirium. It seems plausible that this screening could be a potent intervention to reduce pneumonia and delirium in frail elderly after hip fracture surgery.

Sarcopenia does not predict one-year-mortality after a hip fracture

Author(s): Sanchez-Castellano C.; Merello-De-Miguel A.; Vaquero-Pinto M.N.; Cruz-Jentoft A.J.; Ramirez-Archundia A.C.
Source: European Geriatric Medicine; Oct 2016; vol. 7
Abstract: Objectives: This is a substudy of an ongoing study that aims to identify biological markers (inflammatory/neuromuscular) for the diagnosis of sarcopenia in patients older than 80, hospitalized for the treatment of a hip fracture. The aim was to explore if sarcopenia is linked with outcomes in this patients. Methods: Patients admitted to an orthogeriatric unit who gave informed consent for the biomarker's study. Muscle mass was assessed using bioimpedance analysis, Janssen (J) and Masanes (M) reference cutoff-points were used. Strength was assessed with handgrip (Jamar's dynamometer). Assessment included socio-demographic data, cognitive status (Pfeiffer, GDS-Reisberg), functional status (Barthel, Lawton, FAC), nutrition (MNA, BMI), number of falls, medications. After one year, by phone-call, mortality, functional status, cognitive status, visits to Emergency Department (ED), hospitalizations, falls and institutionalization were collected. Results: N = 87. Mean age:88.0 +/- 4.7. Women:82.8%. Sarcopenia prevalence varied from 8.8%(J) to 33.7%(M). One-year-mortality: 16%. Visits-to-ED:0.7 +/- 1.1. Hospitalizations:0.2 +/- 0.5. Falls:1.4 +/- 1.6. No ambulation: 38.1%. 45.7% had at least one visit to the ED, 20.5% one or more hospitalizations. Independent for ADL 14.3%, severe dependency 57.1%. Only 14.3% were independent in more than three IADL. 55% had at least one fall, 15% > 4 falls after discharge. In multivariate analysis, sarcopenia was not predictive of mortality. The only predictive factor of mortality was male gender(p = 0.012). Conclusion: Sarcopenia, assessed by international (Janssen) and local (Masanes) cutoff-points, did not predict one-year-mortality in this small sample of patients hospitalized for the surgical treatment of a hip fracture. This should be confirmed with a larger sample. Male gender is a risk factor for one-year-mortality in this population.

Prevalence of sarcopenia in very old hip fracture patients
Author(s): Vaquero-Pinto M.N.; Sanchez-Castellano C.; Merello-de-Miguel A.; Cruz-Jentoft A.J.; Ramirez-Archundia A.C.
Source: European Geriatric Medicine; Oct 2016; vol. 7
Abstract: Objectives: This is a substudy of an ongoing study that aims to identify biological markers (inflammatory and neuromuscular markers) for the early diagnosis of sarcopenia in patients older than 80 years hospitalized for the surgical treatment of a hip fracture. The aim was to assess the prevalence of sarcopenia (defined as low muscle mass and strength). Methods: Patients admitted to an orthogeriatric unit who gave the informed consent for the biomarker's study. Muscle mass was assessed preoperatively using bioimpedance analysis, Janssen's (J) and Masanes (M) Spanish reference cutoff-points were used to define low muscle mass. Strength was assessed with handgrip strength (Jamar's dynamometer). Assessment included socio-demographic data, cognitive status(Pfeiffer, GDS-Reisberg), functional status(Barthel, Lawton, FAC), nutrition(MNA, BMI), number of falls, medications. Results: N = 87. Mean age:88.0 +/- 4.7. Women:82.8%. Sarcopenia prevalence varied from 8.8% (FJ) to 33.7% (FM). 74.5% had independent ambulation before the fracture, 69% reported two or more previous falls. 30% had dementia,18.8% moderate to severe dementia. 75.3% had mild to moderate dependence before admission, only 12.9% were independent for BADL. MNA:10.4 +/- 2.7. BMI = 25.6 +/- 14-7. 83.7% were on 4 or more drugs before admission. In multivariate analysis, only the type of fracture was associated to the presence of sarcopenia (subcapital fractures more frequent, p = 0.018). Conclusion: The

prevalence of sarcopenia in our patients with hip fracture varies according the muscle mass reference cutoff-points used, been more frequent with national references. Most hip fracture patients do not have pre-fracture sarcopenia. Subcapital hip fractures were more frequent in sarcopenic patients.

Orthogeriatric co-management improves the outcome of long-term care residents with fragility fractures

Author(s): Gosch M.; Hoffmann-Weltin Y.; Roth T.; Blauth M.; Kammerlander C.; Nicholas J.A.

Source: Archives of Orthopaedic and Trauma Surgery; Oct 2016; vol. 136 (no. 10); p. 1403-1409

Abstract: Background: Fragility fractures are a major health care problem worldwide. Both hip and non-hip fractures are associated with excess mortality in the years following the fracture. Residents of long-term nursing homes represent a special high-risk group for poor outcomes. Orthogeriatric co-management models of care have shown in multiple studies to have medical as well as economic advantages, but their impact on this high-risk group has not been well studied. Objective: We studied the outcome of long-term care residents with hip and non-hip fractures admitted to a geriatric fracture center. Methods: The study design is a single center, prospective cohort study at a level-I trauma center in Austria running a geriatric fracture center. The cohort included all fragility fracture patients aged over 70 admitted from a long-term care residence from May 2009 to November 2011. The data set consisted of 265 patients; the mean age was 86.8 +/- 6.7 years, and 80 % were female. The mean follow-up after the index fracture was 789 days, with a range from 1 to 1842 days. Basic clinical and demographic data were collected at hospital admission. Functional status and mobility were assessed during follow-up at 3, 6, and 12 months. Additional outcome data regarding readmissions for new fractures were obtained from the hospital information database; mortality was crosschecked with the death registry from the governmental institute of epidemiology. Results: 187 (70.6 %) patients died during the follow-up period, with 78 patients (29.4 %) dying in the first year. The mean life expectancy after the index fracture was 527 (+/-431) days. Differences in mortality rates between hip and non-hip fracture patients were not statistically significant. Compared to reported mortality rates in the literature, hip fracture patients in this orthogeriatric-comanaged cohort had a significantly reduced one-year mortality [OR of 0.57 (95 % CI 0.31-0.85)]. After adjustment for confounders, only older age (OR 1.091; p = 0.013; CI 1.019-1.169) and a lower Parker Mobility Scale (PMS) (OR 0.737; p = 0.022; CI 0.568-0.957) remained as independent predictors. During follow-up, 62 patients (23.4 %) sustained at least one subsequent fracture, and 10 patients (3.4 %) experienced multiple fractures; 29 patients (10.9 %) experienced an additional fracture within the first year. Nearly, half (47.1 %) regained their pre-fracture mobility based on the PMS. Conclusion: Despite the generally poor outcomes for fragility fracture patients residing in long-term care facilities, orthogeriatric co-management appears to improve the outcome of high-risk fragility fracture patients. One-year mortality was 29.4 % in this cohort, significantly lower than in comparable trials. Orthogeriatric co-management may also have positive impacts on both functional outcome and the risk of subsequent fractures.

Validating the 4A's test in screening for delirium in a culturally diverse geriatric inpatient population.

Author(s): De, Jayita; Wand, Anne P F; Smerdely, Peter I; Hunt, Glenn E
Source: International journal of geriatric psychiatry; Oct 2016
Abstract: To measure the diagnostic accuracy of the 4A's test in screening for delirium in geriatric inpatients from culturally diverse backgrounds. A prospective study was conducted with patients admitted to the geriatric and orthogeriatric services of a tertiary teaching hospital. Consenting participants aged 65 years and over were screened for delirium with the 4AT by nursing staff within 72 h of admission. The diagnosis of delirium was made separately by expert assessors, responsible for the participant's clinical care, blinded to the 4AT score, within 30 min of the 4AT assessment using the DSM 5 criteria and the Confusion Assessment Method. Interpreters were used for non-English speaking patients. The Informant Questionnaire for Cognitive Decline in the Elderly was completed by a carer/relative to assess for probable dementia. A total of 257 participants (mean age 85) were recruited over five months. Delirium was diagnosed in 159 (62%) by the expert assessors and 158 (62%) by the 4AT assessment. A total of 205 participants (80% of total population) had probable dementia. The sensitivity and specificity of the 4AT were 87% and 80%, respectively, in detecting delirium overall, 86% and 71% in people with probable dementia and 91% and 71% for non-English speaking participants. The area under the receiver operating characteristic curve for delirium in the whole population was 0.92, 0.89 in the probable dementia subgroup and 0.90 in non-English speaking participants. The 4AT is a sensitive and specific screening tool for delirium in geriatric inpatients, including those with probable dementia or who are non-English speaking. Copyright © 2016 John Wiley & Sons, Ltd.

Value of a coordinated management of osteoporosis via Fracture Liaison Service for the treatment of orthogeriatric patients.
Author(s): Schray, D; Neuerburg, C; Stein, J; Gosch, M; Schieker, M; Böcker, W; Kammerlander, C
Source: European journal of trauma and emergency surgery : official publication of the European Trauma Society; Oct 2016; vol. 42 (no. 5); p. 559-564
Abstract: The prevalence of osteoporosis in female patients over 75 years of age is 59.2 %. In Germany ~6.3-7.8 million patients are affected by osteoporosis. In 77 % of german patients osteoporosis is not treated adequately. Even after fragility fractures only 16-21 % of female patients and 3 % of male patients are supplied with a specific osteoporosis therapy. Establishing a Fracture Liaison Services (FLS) is a possible addition to co-management for an efficient treatment of osteoporosis in orthogeriatric patients. According to a treatment algorithm adapted to the DVO guideline 2014, data of 251 (77 male, 173 female) patients were collected over 3 months. For the assessment specific and standardized questionnaires were used. There was also a basic laboratory testing for osteoporosis done. The average age of female patients was 76.1 years, in male patients 76.6 years. Thirty-seven patients had vertebral fractures, 25 patients proximal humerus fractures, 18 distal radius fractures and a total of 78 proximal femur fractures were recorded. Eighteen percent of the 251 patients have already been treated with a basic and 11 % with a specific osteoporosis medication. Approximately 40 % of the orthogeriatric patients were diagnosed with osteoporosis for the first time in our clinic. Less than 1 % of the patients had a vitamin D level over 40 ng/ml and 32 % had a vitamin D level under 10 ng/ml. Sixty-five percent of the discharged patients received a basic osteoporosis therapy and 25 % an additional specific therapy. Due to the demographic development osteoporosis-associated fractures steadily increase. In

addition to the surgical treatment of fractures, osteological diagnosis and treatment are essential components of successful treatment and critical to the prevention of further fractures. A combination of orthogeriatric center and fracture liaison service allows a more efficient treatment of osteoporosis by close supervision of orthogeriatric patients by the physicians involved.

Cost-Effectiveness of Orthogeriatric and Fracture Liaison Service Models of Care for Hip Fracture Patients: A Population-Based Study.
Author(s): Leal, Jose; Gray, Alastair M; Hawley, Samuel; Prieto-Alhambra, Daniel; Delmestri, Antonella; Arden, Nigel K; Cooper, Cyrus; Javaid, M Kassim; Judge, Andrew; and the REFReSH Study Group
Source: Journal of bone and mineral research : the official journal of the American Society for Bone and Mineral Research; Sep 2016
Abstract: Fracture liaison services are recommended as a model of best practice for organizing patient care and secondary fracture prevention for hip fracture patients, although variation exists in how such services are structured. There is considerable uncertainty as to which model is most cost-effective and should therefore be mandated. This study evaluated the cost- effectiveness of orthogeriatric (OG)- and nurse-led fracture liaison service (FLS) models of post-hip fracture care compared with usual care. Analyses were conducted from a health care and personal social services payer perspective, using a Markov model to estimate the lifetime impact of the models of care. The base-case population consisted of men and women aged 83 years with a hip fracture. The risk and costs of hip and non-hip fractures were derived from large primary and hospital care data sets in the UK. Utilities were informed by a meta-regression of 32 studies. In the base-case analysis, the orthogeriatric-led service was the most effective and cost-effective model of care at a threshold of £30,000 per quality-adjusted life years gained (QALY). For women aged 83 years, the OG-led service was the most cost-effective at £22,709/QALY. If only health care costs are considered, OG-led service was cost-effective at £12,860/QALY and £14,525/QALY for women and men aged 83 years, respectively. Irrespective of how patients were stratified in terms of their age, sex, and Charlson comorbidity score at index hip fracture, our results suggest that introducing an orthogeriatrician-led or a nurse-led FLS is cost-effective when compared with usual care. Although considerable uncertainty remains concerning which of the models of care should be preferred, introducing an orthogeriatrician-led service seems to be the most cost-effective service to pursue. © 2016 American Society for Bone and Mineral Research.

Psychological

Validating the 4A's test in screening for delirium in a culturally diverse geriatric inpatient population
Author(s): De J.; Smerdely P.I.; Wand A.P.; Hunt G.E.
Source: International Journal of Geriatric Psychiatry; 2016
Abstract: Objective: To measure the diagnostic accuracy of the 4A's test in screening for delirium in geriatric inpatients from culturally diverse backgrounds. Methods: A prospective study was conducted with patients admitted to the geriatric and orthogeriatric services of a

tertiary teaching hospital. Consenting participants aged 65years and over were screened for delirium with the 4AT by nursing staff within 72h of admission. The diagnosis of delirium was made separately by expert assessors, responsible for the participant's clinical care, blinded to the 4AT score, within 30min of the 4AT assessment using the DSM 5 criteria and the Confusion Assessment Method. Interpreters were used for non-English speaking patients. The Informant Questionnaire for Cognitive Decline in the Elderly was completed by a carer/relative to assess for probable dementia. Results: A total of 257 participants (mean age 85) were recruited over five months. Delirium was diagnosed in 159 (62%) by the expert assessors and 158 (62%) by the 4AT assessment. A total of 205 participants (80% of total population) had probable dementia. The sensitivity and specificity of the 4AT were 87% and 80%, respectively, in detecting delirium overall, 86% and 71% in people with probable dementia and 91% and 71% for non-English speaking participants. The area under the receiver operating characteristic curve for delirium in the whole population was 0.92, 0.89 in the probable dementia subgroup and 0.90 in non-English speaking participants. Conclusions: The 4AT is a sensitive and specific screening tool for delirium in geriatric inpatients, including those with probable dementia or who are non-English speaking.

Association between Cognitive Status before Surgery and Outcomes in Elderly Patients with Hip Fracture in a Dedicated Orthogeriatric Care Pathway.
Author(s): Zerah, Lorene; Cohen-Bittan, Judith; Raux, Mathieu; Meziere, Anthony; Tourette, Cendrine; Neri, Christian; Verny, Marc; Riou, Bruno; Khiami, Frederic; Boddaert, Jacques
Source: Journal of Alzheimer's disease : JAD; Nov 2016
Abstract: Dementia is associated with a worse prognosis of hip fracture, but the impact of a dedicated geriatric care pathway on the prognosis of these patients has not been evaluated. According to the cognitive status before surgery, our main objective was to compare mortality rate at 6 months; secondary outcomes were to compare in-hospital complications, the risk of new institutionalization, and the ability to walk at 6 months. Between 2009 and 2015, all patients (>70 years) admitted after hip fracture surgery into a dedicated unit of peri-operative geriatric care were included: patients with dementia (DP), without dementia (NDP), and with cognitive status not determined (CSND). Data are expressed as hazard ratio (HR) for multivariate cox analysis or odds ratio (OR) for multivariate logistic regression analysis and their 95% confidence interval (CI). We included 650 patients (86±6 years): 168 DP, 400 NDP, and 82 CSND. After adjustment for age, sex, comorbidities, polypharmacy, pre-fracture autonomy, time-to-surgery, and delirium, there were no significant differences for 6-month mortality (DP versus NDP: HR = 0.7[0.4-1.2], DP versus CSND: HR = 0.6[0.3-1.4], CSND versus NDP: HR = 0.8[0.4-1.7]); but DP and CSND were more likely to be newly institutionalized after 6 months compared to NDP (OR DP = 2.6[1.4-4.9], p = 0.003, OR CSND = 2.9[1.4-6.1], p = 0.004). 92% of population was walking after 6 months (63% with assistance): no difference was found between the three groups. In a dedicated geriatric care pathway, DP and CSND undergoing hip surgery have the same 6-month mortality and walking ability as NDP.

Association between mini nutritional assessment (MNA) and the development of delirium in elderly patients with hip fracture
Author(s): Lozano-Montoya I.; Miret-Corchado C.; Vaquero-Pinto M.N.; Roldan-Plaza C.; Sanchez-Garcia E.; Cruz-Jentoft A.

Source: European Geriatric Medicine; Oct 2016; vol. 7
Abstract: Introduction: The presence of delirium in patients undergoing hip fracture is common and this is also true with malnutrition. It seems important to evaluate the association between MNA and perioperative delirium in patients undergoing hip fracture. Method: All patients >80 years admitted in the Orthogeriatric Unit of a tertiary hospital and underwent hip surgery from June 2014 to June 2015 were included. Epidemiologic variables were collected, comprehensive geriatric assessment: Barthel index (BI), cognitive status, visual and hearing deficit, nutritional status, presence of perioperative delirium, basal location and drugs previously taken. Surgical risk was classified by the American Society of Anaesthesiologists Index (ASA). About the type of fracture and anaesthesia, the no authorization of weight bearing, the mean stay and the hospital mortality were collected. Results: 362 patients were included, 33% with dementia, 56% without visual deficit and 45% without hearing deficit. The 71% was taking more tan 4 drugs. The 52% had ASA III, 51% pertrochanteric fracture and the 94% spinal anaesthesia was used. Weight bearing was not authorized in 8%. The mean stay was 14 +/- 6 days and there was hospital mortality of 4%. A 63% had a MNA < 12. A 44% developed a perioperative delirium. The MNA <12 values were associated with the presence of perioperative delirium (p = 0,002). This association remained after the adjustment for age, gender and the presence of dementia (p < 0,05). Conclusions: The risk of malnutrition assessed by the MNA is associated with the development of perioperative delirium in patients older than 80 who underwent hip fracture surgery.

Other

Hip fracture registries: utility, description, and comparison
Author(s): Saez-Lopez P.; Branas F.; Gonzalez-Montalvo J.I.; Sanchez-Hernandez N.; Alonso-Garcia N.
Source: Osteoporosis International; Nov 2016 ; p. 1-10
Abstract: Summary: Hip fractures (HF) are prevalent and involve high morbidity and mortality so improving their management is important. HF registries are a good way to improve knowledge about this condition and its quality of care, while at the same time reducing clinical variability, optimizing efficiency, improving outcomes, and reducing costs. Introduction: Hip fractures (HF) are a prevalent fragility fracture secondary to osteoporosis that involves high morbidity and mortality. They are low-impact fractures, resulting from a fall from a standing or sitting height. Despite numerous Clinical Practice Guidelines that establish uniform recommendations for their care, great variability persists regarding clinical and healthcare outcomes. Fracture registries can help detect deficits and establish measures to improve care. The objective of this work is to analyze the contents that a HF registry should have and to compare the characteristics of some national HF registries. Methods: A literature search was conducted on several national hip fracture registries, and those that contain relevant information on the variables and their outcomes were selected. Results: The selected HF registries were compared using the parameters they measure as well as the outcomes in the different countries. The variables collected in the majority of the databases and those that give useful information are as follows: sociodemographic variables (age, sex, place of residence), clinical variables (function before and after HF, anesthesia risk as measured by the ASA score, type of fracture, type of surgery and anesthesia, and in-hospital and 1-month mortality), and healthcare variables (pre-operative and overall stay, presence

of collaboration with orthogeriatrics or with any clinician in addition to the surgeon, secondary prevention of new fractures by assessing the fall risk, and need for osteoporosis treatment). Conclusion: The recording of HF cases in different countries improves knowledge about handling this condition and its quality of care, while at the same time reducing clinical variability, optimizing efficiency, improving outcomes, and reducing costs. The debate on the variables that should be recorded is timely, such as organizing how to collect each measurement, and even trying to unify the national and international registries or using a current proposal such as the one from the Fragility Fracture Network.

National database of geriatrics
Author(s): Kannegaard P.N.; Vinding K.L.; Hare-Bruun H.
Source: Clinical Epidemiology; Oct 2016; vol. 8 ; p. 731-735
Central
Abstract: Aim of database: The aim of the National Database of Geriatrics is to monitor the quality of interdisciplinary diagnostics and treatment of patients admitted to a geriatric hospital unit. Study population: The database population consists of patients who were admitted to a geriatric hospital unit. Geriatric patients cannot be defined by specific diagnoses. A geriatric patient is typically a frail multimorbid elderly patient with decreasing functional ability and social challenges. The database includes 14-15,000 admissions per year, and the database completeness has been stable at 90% during the past 5 years. Main variables: An important part of the geriatric approach is the interdisciplinary collaboration. Indicators, therefore, reflect the combined efforts directed toward the geriatric patient. The indicators include Barthel index, body mass index, de Morton Mobility Index, Chair Stand, percentage of discharges with a rehabilitation plan, and the part of cases where an interdisciplinary conference has taken place. Data are recorded by doctors, nurses, and therapists in a database and linked to the Danish National Patient Register. Descriptive data: Descriptive patient-related data include information about home, mobility aid, need of fall and/or cognitive diagnosing, and categorization of cause (general geriatric, orthogeriatric, or neurogeriatric). Conclusion: The National Database of Geriatrics covers ~90% of geriatric admissions in Danish hospitals and provides valuable information about a large and increasing patient population in the health care system.

Massive hematochezia in an elderly patient
Author(s): Luis M.M.; Sousa A.A.; Oliveira M.; Verissimo R.; Rozeira C.; Oliveira A.; Paixao Dias V.
Source: European Geriatric Medicine; Oct 2016; vol. 7
Abstract: Introduction: Albeit common in the immunocompromised, Cytomegalovirus (CMV) disease of the gastrointestinal tract is rare in the immunocompetent. Symptoms and endoscopic features are not well recognized. Case description. 87 year-oldwoman. Katz A. Medical history of Hypertension. Admitted at the Orthogeriatrics Unit, after closed reduction of femur fracture. No intra-operatory complications. Good health status. Hemodynamic stability. Apyrexia. First post-operative day: hyperactive delirium, compromising functional rehabilitation start. Sixth post-operative day: fever. Considering progressive global status deterioration, cultures were performed. Antibiotic treatment was started. Surgical site, pulmonary and urinary infection were excluded. Malaise and diarrhea. Clostridium difficile and other enteric pathogens were excluded. Leucocytes were identified

in feces. Abdominal echography OK. Negative cultural exams, including coprocultures. Eighteenth post-operative day: hematochezias, requiring transfusion. Angio-CT scan excluded ischemic colitis. Negative immunologic screen. Low sed rate. Colonoscopy: infectious colitis. HV negative. Ciprofloxacin and metronidazol were started. Intestinal biopsy with intranuclear inclusions - compatible with CMV infection. Ganciclovir treatment resolved symptoms. No relapse. Conclusions: Klauber et al found association between hospitalization and CMV infection in 1/3 of the geriatric patients. Major surgery is a risk factor. The elderly may be more susceptible to this infection due to immunitary changes associated with age.

Our Orthogeriatric Unit: A descriptive study
Author(s): Pablos Hernandez C.; Perez Lopez R.; Julian Enriquez J.M.; Blanco Blanco J.F.; Gonzalez Ramirez A.; Luis M.M.; Garcia Iglesias M.A.
Source: European Geriatric Medicine; Oct 2016; vol. 7
Abstract: Introduction: The Orthogeriatric Units (OU) are a multidisciplinary team composed of Geriatricians and Orthopaedic Surgeons. A classical collaborative organizational model has evolved to an active one. Objective: Description and analysis of the components concerning an OU. Material and methods: Epidemiological, retrospective, observational and descriptive study. Secondary database. Population: elderly patients admitted with the primary diagnosis of hip fracture during 1st June 2013 - 31st December 2014:N = 813 patients. The primary and secondary diagnosis were codified according to ICD-9. Considering CMDB, patients were categorized by AP-GRDR. ALCORR was used to collect assistance clinical information. Statistical analysis was performed in two steps: descriptive and comparative study. Results: N = 813 patients. Mean age 85.73 (+/-6.9). 78.0% women. 50.1% pertrochanteric and 30.1% subcapital fractures. 100% Geriatric Comprehensive Assessment [Barthel: 81,3%: 61-100//Lawton: 62,2%: 0-4//Cruz Roja Fisica(CRF): 75% 1-2/5; 18,8% 3/5// 6,2% 4-5/5// 2,9% 5/5)]. Length of stay: 9.55 (DP 4.37) days; preoperative: 3.23 days (DP 2.43); postoperative: 6.53 (DP 3.31). Conservative treatment: 4,4%; early surgery (<24 h): 26%; 51% osteosynthesis 39,2% (PPC). Intrahospitalarmortality: 3.4%; GRDR: (34,3% 818; 31,4% 211; 14,8% 210) PESO-GRDR: 3,18 (DE 1,42). Conclusion: The OU model will provide more insight on how to improve care processes and outcomes for patients with hip fracture. Considering patients' age and comorbidities, our patients present low in-hospital mortality compared to other national series. We believe early surgery is a key factor for such results.

Preliminary data of the "Gruppo Italiano di Ortogeriatria, GIOG" database in elderly patients admitted to Orthogeriatric Units after hip fracture
Author(s): Bellelli G.; Magri M.C.; Valsecchi M.G.; Rapazzini P.; Zurlo A.; Mussi C.; Corsi M.; Lunardelli M.L.; Castoldi G.; De Filippi F.; Ferrari A.; Ferrara N.; Trabucchi M.
Source: European Geriatric Medicine; Oct 2016; vol. 7
Abstract: Introduction: Recently, the Italian Association of Psychogeriatrics (AIP), the Italian Society of Gerontology and Geriatrics (SIGG) and the Italian Society of Hospital's and community Geriatrics (SIGOT) have developed a dataweb to collect data of hip fracture (HF) patients admitted to a network of Italian Orthogeriatric Units (OU). Here we report some preliminary data. Methods: From February 1st, to May 13th, 2016, the data of 257 patients admitted to 7 OUs were collected, including demographics, functional and cognitive status, type of fracture and surgery, time from HF to surgery, delirium, osteometabolic drugs,

length of hospital stay (LOS) and destination at discharge. Results: Mean age was 86.0 + 5.9, with predominant females (74.7%). 235 patients (91.4%) were admitted from home and 22 (8.5%) from nursing home. Before HF, 102 (39.6%) patients were able to walk without aids outside home and 51 (19.8%) to walk only inside. Only 15.2% of patients took osteometabolic drugs. According to Short Physical Mental Status Questionnaire score (211 patients), normal cognitive status was found only in 98 (46.4%) patients. Type of fracture was mainly intertrocantheric (n = 103, 40%) and intramedullary nail (122, 47.7%) was the most frequent surgical intervention, with a time from HF to surgery of 53.2 + 75.3 hours. Delirium occurred postoperatively in 24.1% patients. At discharge, 146 patients (75.6%) were sent to rehabilitation units, with most patients being on osteometabolic treatment (n = 151, 78.2%). The average LOS was 10 + 5.8 days. Conclusion: These preliminary data will serve at a basis for future studies and benchmarking purposes among OU in Italy

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December 2016, Volume 98-B, Issue 12

Osteoporosis International

December 2016, Volume 27, Issue 12

Exercise: Systematic Reviews

There are 7 key steps that need to be taken when carrying out a Systematic Review. Can you put them in order?

A. Quality assessment

B. Study selection

C. Synthesis

D. Data extraction

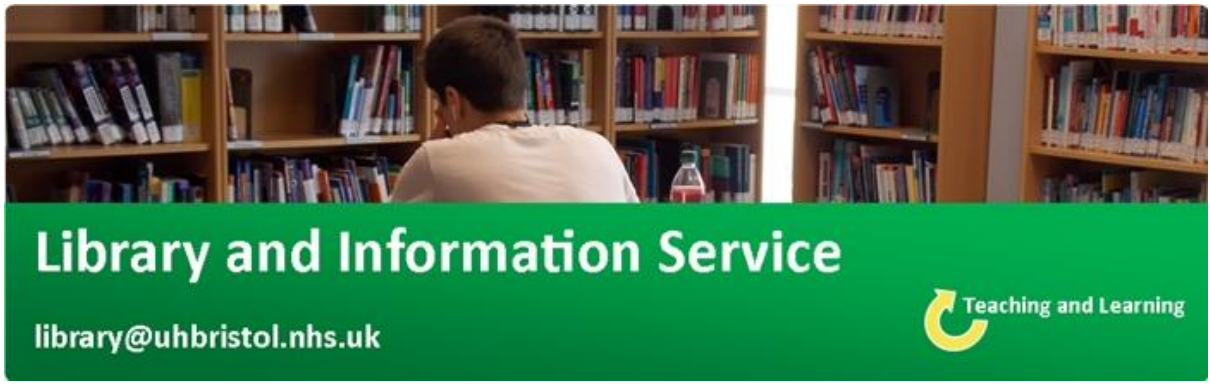
E. Define the question

F. Literature search

G. Writing up

*For assistance with carrying out a **systematic review search** or a **literature search**, please email library@uhbristol.nhs.uk.*

Answers: 1E; 2F; 3B; 4D; 5A; 6C; 7G



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