Current Awareness

Sign Up To Safety

This monthly Current Awareness Bulletin is produced by the Library Team, Musgrove Park Hospital to provide staff with a range of resources to support Sign Up To Safety. It includes recently published guidelines and research articles, news and policy items.

This guide provides a selection of relevant resources and is not intended to be a comprehensive list. All websites have been evaluated and details are correct at the time of publications.

Details correct at time of going to print. Please note that resources are continuously updated.

For further help or guidance, please contact a member of library staff.

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Please note that abstracts are not always available for articles.

**FALLS**

**The Diagnostic Accuracy of the Berg Balance Scale in Predicting Falls**

**Author(s):** Park, Seong-Hi; Lee, Young-Shin  
**Source:** Western Journal of Nursing Research; Nov 2017; vol. 39 (no. 11); p. 1502  
**Abstract:** This study aimed to evaluate the predictive validity of the Berg Balance Scale (BBS) as a screening tool for fall risks among those with varied levels of balance. A total of 21 studies reporting predictive validity of the BBS of fall risk were meta-analyzed. With regard to the overall predictive validity of the BBS, the pooled sensitivity and specificity were 0.72 and 0.73, respectively; the accuracy curve area was 0.84. The findings showed statistical heterogeneity among studies. Among the sub-groups, the age group of those younger than 65 years, those with neuromuscular disease, those with 2+ falls, and those with a cutoff point of 45 to 49 showed better sensitivity with statistically less heterogeneity. The empirical evidence indicates that the BBS is a suitable tool to screen for the risk of falls and shows good predictability when used with the appropriate criteria and applied to those with neuromuscular disease.  
**Database:** BNI

**Predictors of postoperative falls in the first and second postoperative years among older hip fracture patients**

**Author(s):** Yeh, Hsiang-Fen; Shao, Jung-Hua; Li, Chia-Lin; Wu, Chi-Chuan; Shyu, Yea-Ing L  
**Source:** Journal of Clinical Nursing; Nov 2017; vol. 26 (no. 21-22); p. 3710  
**Abstract:** Aims and objectives To explore risk factors for a single fall and multiple falls in the first and second postoperative years among older hip fracture patients. Background Older hip fracture patients have a high probability of falling again after a fall incident. Risk factors for postoperative falls among older hip fracture patients in Taiwan remain to be confirmed. Design Secondary analysis. Methods Data collected from control groups of two clinical trials conducted during 2001-2004 and during 2005-2009 were selected. Overall, 181 older adults who underwent hip fracture surgery were assessed at predischarge and postdischarge. Participant data were collected through home visits. Results Decline in unaffected limb quadriceps muscle endurance was a crucial predictor of a single fall in the first postoperative year for older hip fracture patients. Advanced age and more severe depressive symptoms were the crucial predictor for multiple falls. Engagement in activities of daily living was the crucial predictor for falls during the first to second postoperative years among older hip fracture patients. Conclusion In Taiwan, postoperative falls that occur within 1-2 years of a hip fracture are associated with a high incidence of single and multiple falls in older people. The crucial predictors of falls in the first and second year after a hip fracture include unaffected limb quadriceps endurance, age, depression status and postdischarge activities of daily livings in older people. Relevance to clinical practice The identified factors associated with subsequent falls within one and two years of a hip fracture should be incorporated into clinical strategies and taught in nursing courses. Early postoperative lower extremity muscular endurance rehabilitation must be provided. Furthermore, as part of the healthcare plan before hospital discharge, it must be ensured that the community where the older adults live has nutritional education, cognitive screening and psychological support.  
**Database:** BNI
The prevalence of pain and its relationship to falls, fatigue, and depression in a cohort of older people living in the community

**Author(s):** Crowe, Marie; Jordan, Jennifer; Gillon, Deborah; McCall, Cate; Frampton, Christopher; Jamieson, Hamish

**Source:** Journal of Advanced Nursing; Nov 2017; vol. 73 (no. 11); p. 2642

**Abstract:** Aim To examine the relationship of the pain severity scores with demographic variables (age, gender, and ethnicity) and with the frequency of falls, fatigue, and depression in a very large New Zealand sample of people over 65 years assessed using the Home Care International Residential Assessment Instrument. Background Pain is reported to be highly prevalent in older people yet it is poorly correlated with tissue damage. There is convincing evidence that it is related to depression and some evidence of its relationship with fatigue and falls. Design This is a cross-sectional study examining a national cohort assessed on referral for a needs assessment for access to publicly funded service provision or support. Method Participants were 45,418 adults aged over 65 years referred for a mandatory needs assessment between 2012-2014. All variables analysed were drawn from the Home Care International Residential Assessment Instrument. Univariate descriptive statistics were used to characterize the sample in relation to the association of severe pain with age, gender, and ethnicity and with the key variables of interest: falls, fatigue, and depression. Logistic regression models were used to examine the relationship of the presence or not of severe pain with the other key health-related variables: falls, fatigue, and depression, respectively, after controlling for the presence of age, gender, and ethnicity. Odds ratios are reported to quantify the difference in risk with increasing severity of falls, fatigue, and depression. Results The mean age of the cohort was 82.48 years (SD 7.48) and 48.5% of the sample reported experiencing daily pain. The rates of severe daily pain were 12%-18% with those in the 65-74 years group having the highest reported rate of severe pain (18%) and a gradual decrease in severe pain with age. After co-varying for age, ethnicity, and gender, the presence of severe daily pain was predicted by increasing frequency of falls and fatigue and having current depression. While two-thirds reported their pain control was adequate, a third reported that their pain control was not adequate despite adhering to a therapeutic regime. Conclusion The study highlights how pervasive pain is in this group and its correlation with falls, fatigue, and depression. While the effect sizes were relatively small the results may be clinically significant and it may be clinically important that the presence of pain in older people could indicate the need for further nursing assessment in relation to falls, fatigue, and depression.

**Database:** BNI

The Got-A-Minute Campaign to Reduce Patient Falls with Injury in an Acute Care Setting

**Author(s):** Spicer, Joan Gygax; Delmo, Cynthia Javines; Agdipa, Cecil

**Source:** Medsurg Nursing; 2017; vol. 26 (no. 5); p. 313

**Abstract:** According to the Agency for Healthcare Research and Quality (2013b), fall rates range from 1.3 to 8.9 falls/1,000 patient days, and higher rates occur in units that focus on eldercare, neurological diseases, and rehabilitation. Project Site and Reasons for Change This report describes the first 3 years of an ongoing campaign to reduce patient falls with injury on a medical-surgical acute care unit in a safety-net hospital serving low-income patients. [...]the Stumble Stoppers perceived the only course was to reorient patients to their safety plans. Patient falls and fall prevention remain complex phenomena for every acute care setting. 1W3 Literature Summary * Fall prevention toolkits are available from multiple sources (Agency for Healthcare Research and Quality, 2013a, 2013b). * A qualitative study of three hospitals implementing falls prevention programs described the real world journey (Ireland, Kirkpatrick, Boblin, & Robertson, 2013). * A review of core experiential and pragmatic do-and-don't messages on how to customize care to each patient's unique fall risk is provided (Quigley, 2015). * Reflective practice can promote evidence-based practice (Asselin, Schwartz-Barcott, & Osterman, 2013). * Peer group discussion prompts deeper reflection (Asselin & SchwartzBarcott, 2015).

**Database:** BNI
Falls in the residential independent care sector - ambiguity in guidelines and policies for healthcare assistants

Author(s): Stonehouse, David; Scott-Thomas, Jeanette; Graham, Yitka; Ling, Jonathan; Barrigan, Marie; Hayes, Catherine

Source: British Journal of Healthcare Assistants; Sep 2017; vol. 11 (no. 9); p. 434-440

Available at British Journal of Healthcare Assistants - from MAG Online Library

Abstract: The need for healthcare assistants (HCAs) to have clear policies and guidelines in relation to when falls occur in domiciliary care settings is paramount. If first-line responses are to be appropriately tailored to patient need and discernment is to be used in determining the necessity for intervention by emergency care workers such as paramedics, then standardised frameworks and policies ought to be clearly apparent across care sectors. Our work focused on the first-line response to patient falls in the independent care sector in a specific geographical region of north-east England. This article provides an insight into what our original findings revealed and how they might be used as a source of reflection for HCAs working in the residential independent care sector. Using a basic questionnaire, we surveyed 24 (75%) of the 32 independent care sector homes in South Tyneside to establish how policies and guidelines in these organisations were understood by staff. Our findings highlight a diverse array of responses to falls in care home settings. While 96% of homes claimed to have a specific policy on falls, only 80% of them included an assessment of possible injury or harm to residents and 13% included no direct guidance for care staff in instances where residents fell and were still on the floor. Even in instances where policies did include direct guidance, there was great variation in available information for staff, especially between domiciliary and care home settings. Most commonly, staff were advised to call an emergency ambulance, even in the absence of injury, if patients were found on the floor. HCAs are working in contexts where there is apparently a high degree of ambiguity around the assessment of injuries sustained as a consequence of falls, particularly where potentially non-visible injuries occur, which are not immediately recognisable or symptomatic. There was also overlap between accident and falls policies, which added a further level of ambiguity to the most appropriate and immediate actions for HCAs to take. References

Database: BNI

Effect of home-based rehabilitation on activities of daily living and gait in older adults with heart failure at risk for falling: A retrospective cohort study.

Author(s): Asiri, Faisal Y; Marchetti, Gregory F; Ellis, Jennifer L; Otis, Laurie; Sparto, Patrick J; Watzlaf, Valerie; Whitney, Susan L

Source: Physiotherapy Theory & Practice; Dec 2017; vol. 33 (no. 12); p. 943-953

Abstract: Purpose: The purpose of this study is to describe improvement in activities of daily living (ADL) and gait speed, and associated factors in subjects receiving home-based rehabilitation after hospital admission for heart failure. Methods: A total of 1,055 patients (mean age 82 ± 8 years SD) receiving post-admission home care services for heart failure. Subjects were included if they were referred for home-care rehabilitation after inpatient admission with ICD-9 code indicating heart failure at inpatient discharge, primary home care, or co-morbid diagnosis on admission Outcome and Assessment Information Set version-C (OASIS-C). Change in total ADL score was described and adjusted for significant baseline factors/covariates using a generalized linear model. Factors predictive of exceeding the ADL score Minimal Detectable Change (MDC) were identified with multiple variable logistic regression. Results: Mean change in total ADL score from admission to discharge was 1.6 ± 1.2, the mean change for gait speed was 0.17 ± 0.21 m/s, and the minimum detectable change (MDC) (1.3) was exceeded by 57% of subjects. Improvement in mean ADL score was significantly predicted by age, baseline total ADL score, baseline gait speed score, cognitive-behavioral status, and living situation (R² = 42%). Conclusions: Patients with heart failure receiving home-based rehabilitation services make significant improvements in ADL function and gait performance. Greater ADL improvements are associated with younger age, faster gait speed at baseline, and greater impairment of baseline ADL scores. Age, baseline gait speed, and ADL
composite score are significantly related to making a change beyond measurement error in ADL change score.

**Database:** CINAHL

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**Effectiveness of statewide falls prevention efforts with and without group exercise.**

**Author(s):** Albert, S.M.; King, J.

**Source:** Preventive Medicine; Dec 2017; vol. 105 ; p. 5-9

**Abstract:** Group-based falls prevention programs vary in use of exercise, education, home modification, and other program elements. Pennsylvania's Department of Aging offers two large-scale falls prevention programs that differ in these components, allowing a strong test of the effectiveness of exercise in reducing falls incidence relative to less intensive education-based programs. In 2016-2017, we followed three groups of older adults attending senior centers: (i) older adults who completed Healthy Steps in Motion (HSIM, n=560), an 8-week exercise program, (ii) older adults completing Healthy Steps for Older Adults (HSOA, n=651), a falls education workshop with assessment and referral; and (iii) older adults not completing falls prevention programs (n=787). Participants were followed for up to 6 months with monthly ascertainment of falls. We estimated Poisson regression models to compare incidence rate ratios. The groups did not differ in falls risk at baseline or attrition over follow-up. HSIM participants reported 5.3 fall months per 100 person-months of follow-up. The group not completing falls prevention programming reported 7.3 (incidence rate ratio [IRR], 0.72 [0.59, 0.89]), and the group completing HSOA 6.5 (IRR, 0.82 [0.66, 1.02]). In stratified analyses, falls incidence was lower in HSIM for older adults reporting better balance and no falls in the prior 12 months. Non-exercise-based falls prevention programs may also reduce falls, perhaps through indirect physical benefits such as greater social engagement and increased activity.

**Database:** CINAHL

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**Lower likelihood of falling at age 90+ is associated with daily exercise a quarter of a century earlier: The 90+ Study.**

**Author(s):** PAGANINI-HILL, ANNLIA; GREENIA, DANIA E.; PERRY, SHAWNNA; SAJJADI, SEYED AHMAD; KAWAS, CLAUDIA H.; CORRADA, MARIA M.

**Source:** Age & Ageing; Nov 2017; vol. 46 (no. 6); p. 951-957

**Abstract:** Objective: to explore the relationship between risk of falling at age 90+ and prior physical activity at age 60-70s. Design: population-based cohort study (The 90+ Study). Setting: California retirement community. Participants: of 1596 cohort members, 1536 had both falls and prior activity data. Mean age = 94 years; 78% female; 99% Caucasian. Methods: time spent in active physical activity was self-reported in 1980s; medical history, medication, assistive devices, residence type, and falls (outcome) was collected in 2000s. Activity/fall relationships were assessed using logistic regression. Results: falls were reported by 52% of participants, recurrent falls by 32%, and severe injury by 21% of fallers. In univariate analyses risk of falling at age 90+ was significantly related to medical history (heart disease, TIA/stroke, arthritis, vision disease, depression, dementia), medication use (hypnotics, anti-psychotics, anti-depressants), use of assistive devices (cane, walker, wheelchair), residence type (living with relatives, sheltered living), and source of information (self-report vs informant). Risks of falling and recurrent falls at age 90+ were 35-45% lower in those reporting 30+ minutes/day of active physical activity at age 60-70s compared with no activity. The odds ratio of falling was 0.65 (95% CI = 0.44-0.97) for 30-45 minutes/day and 0.64 (0.44-0.94) for 1+ hour/day adjusting for age, sex, medical history (stroke/TIA, vision disease, depression), use of assistive devices, and source of information. Conclusions and Relevance: falls are extremely common among the oldest-old and a significant proportion lead to severe injury. This work is the first to show an association between exercise at age 60-70s and lower risk of falling at age 90+.

**Database:** CINAHL
9. Increased postural sway during quiet stance as a risk factor for prospective falls in community-dwelling elderly individuals.

**Author(s):** JOHANSSON, JONAS; NORDSTRÖM, ANNA; GUSTAFSON, YNGVE; WESTLING, GÖRAN; NORDSTRÖM, PETER

**Source:** Age & Ageing; Nov 2017; vol. 46 (no. 6); p. 964-970

**Abstract:** Objective: fall-related injuries constitute major health risks in older individuals, and these risks are projected to increase in parallel with increasing human longevity. Impaired postural stability is a potential risk factor related to falls, although the evidence is inconclusive, partly due to the lack of prospective studies. This study aimed to investigate how objective measures of postural sway predict incident falls. Design, setting and participants: this prospectively observational study included 1,877 community-dwelling individuals aged 70 years who participated in the Healthy Ageing Initiative between June 2012 and December 2015. Postural sway and incident falls in older individuals

Measurements: postural sway was measured during eyes-open (EO) and eyes-closed (EC) trials using the Wii Balance Board. Functional mobility, muscle strength, objective physical activity and cognitive performance were also measured. Participants reported incident falls 6 and 12 months after the examination. Results: during follow-up, 255 (14%) prospective fallers were identified. Division of centre of pressure (COP) sway lengths into quintiles revealed a nonlinear distribution of falls for EO trial data, but not EC trial data. After adjustment for multiple confounders, fall risk was increased by 75% for participants with COP sway lengths ≥400 mm during the EO trial (odds ratio [OR] 1.75, 95% confidence interval [CI] 1.09-2.79), and approximately doubled for sway lengths ≥920 mm during the EC trial (OR 1.90, 95% CI 1.12-3.22). Conclusion: objective measures of postural sway independently predict incident falls in older community-dwelling men and women. Further studies are needed to evaluate whether postural sway length is of interest for the prediction of incident falls in clinical settings.

**Database:** CINAHL

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Sex Differences in the Association Between Pain and Injurious Falls in Older Adults: A Population-Based Longitudinal Study.

**Author(s):** Welmer, Anna-Karin; Rizzuto, Debora; Calderón-Larrañaga, Amaia; Johnell, Kristina

**Source:** American Journal of Epidemiology; Nov 2017; vol. 186 (no. 9); p. 1049-1056

**Abstract:** We investigated whether there are sex differences in the association between pain and incident injurious falls. A total of 2,934 people (ages ≥60 years) from the population-based Swedish National Study on Aging and Care in Kungsholmen (2001-2004) participated. Participants were followed up for 3 and 10 years for falls leading to hospitalization or outpatient care. Data were analyzed with flexible parametric survival models that adjusted for potential confounders. During the first 3 years of follow-up, 67 men and 194 women experienced an injurious fall, and over 10 years of follow up, 203 men and 548 women experienced such a fall. In men, the presence of pain, having pain that was at least mild, having pain that affected several daily activities, and having daily pain all significantly increased the likelihood of incurring an injurious fall during the 3-year follow-up period. The multivariate-adjusted hazard ratios ranged from 1.78 (95% confidence interval: 1.00, 3.15) for the presence of pain to 2.89 (95% confidence interval: 1.41, 5.93) for several daily activities’ being affected by pain. Results for the 10-year follow-up period were similar. No significant associations were detected in women. Although pain is less prevalent in men than in women, its impact on risk of injurious falls seems to be greater in men.

**Database:** CINAHL

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The circumstances, orientations, and impact locations of falls in community-dwelling older women.

**Author(s):** Crenshaw, Jeremy R.; Bernhardt, Kathie A.; Achenbach, Sara J.; Atkinson, Elizabeth J.; Khosla, Sundeep; Kaufman, Kenton R.; Amin, Shreyasee

**Source:** Archives of Gerontology & Geriatrics; Nov 2017; vol. 73 ; p. 240-247
Abstract: Objective We sought to characterize the circumstances, orientations, and impact locations of falls in community-dwelling, ambulatory, older women. Methods For this longitudinal, observational study, 125 community-dwelling women age ≥ 65 years were recruited. Over 12-months of follow-up, fall details were recorded using twice-monthly questionnaires. Results More than half (59%) of participants fell, with 30% of participants falling more than once (fall rate = 1.3 falls per person-year). Slips (22%) and trips (33%) accounted for the majority of falls. Approximately 44% of falls were forward in direction, while backward falls accounted for 41% of falls. About a third of all falls were reported to have lateral (sideways) motion. Subjects reported taking a protective step in response to 82% of forward falls and 37% of backward falls. Of falls reporting lateral motion, a protective step was attempted in 70% of accounts. Common impact locations included the hip/pelvis (47% of falls) and the hand/wrist (27%). Backwards falls were most commonly reported with slips and when changing direction, and increased the risk of hip/pelvis impact (OR = 12.6; 95% CI: 4.7–33.8). Forward falls were most commonly reported with trips and while hurrying, and increased the risk of impact to the hand/wrist (OR = 2.6; 95% CI: 1.2–5.9). Conclusion Falls in older ambulatory women occur more frequently than previously reported, with the fall circumstance and direction dictating impact to common fracture locations. Stepping was a common protective recovery strategy and that may serve as an appropriate focus of interventions to reduce falls in this high risk population.

Database: CINAHL

The elderly and falls: Factors associated with quality of life A cross-sectional study using large-scale national data in Korea.

Author(s): Noh, Jin-Won; Kim, Kyoung-Beom; Lee, Ju Hyun; Lee, Byeong-Hui; Kwon, Young Dae; Heui Lee, Seon

Source: Archives of Gerontology & Geriatrics; Nov 2017; vol. 73 ; p. 279-283

Abstract: Objective To investigate the factors of fall injury and measuring the relationship between health-related quality of life in the elderly. Methods We analyzed the data on 38,627 persons of aged 65 years or older who have experienced falls drawn from the Korean Community Health Survey 2011. Binomial logistic regression analysis was performed with crude and adjusted odds ratios and 95% confidence intervals. Results It was found that sex (OR: 1.187), types of household (OR: 1.134), employment status (OR: 0.941), stress (OR: 1.260), comorbidities (OR: 1.308), and health-related quality of life were significantly related to falls among the elderly. Specifically, elderly women, greater stress, comorbidities, and poor health-related quality of life were strongly related to higher odds of falls. Conclusion Health-related quality of life was significantly related with the risk of fall injuries in elderly households. Providing support for informal caregivers (e.g., friends or neighbors), not only family members could expect to positive effect.

Database: CINAHL

Falls and disability among female cancer survivors.

Author(s): Pullen, Lara C.

Source: CA: A Cancer Journal for Clinicians; Nov 2017; vol. 67 (no. 6); p. 437-438

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Abstract: The article reflects on an article by Kerri M. Winters-Stone and others which sheds light on the functional impact of chemotherapy-induced peripheral neuropathy (CIPN) symptoms,
impairments, and functional disabilities associated with CIPN in cancer survivors. It mentions women with persistent CIPN symptoms were found to have poorer physical functioning. It also mentions women with neuropathy, pain, and weakness frequently lose their ability to perform.

**Database:** CINAHL

**Can Physical Activity Prevent Falls in Older Adults with Poor Physical Performance?**

**Author(s):** Judge, James  
**Source:** Journal of the American Geriatrics Society; Nov 2017; vol. 65 (no. 11); p. 2457-2458  
**Database:** CINAHL

**Accelerometer-Measured Moderate to Vigorous Physical Activity and Incidence Rates of Falls in Older Women.**

**Author(s):** Buchner, David M.; Rillamas-Sun, Eileen; Di, Chongzhi; LaMonte, Michael J.; Marshall, Stephen W.; Hunt, Julie; Zhang, Yuzheng; Rosenberg, Dori E.; Lee, I-Min; Evenson, Kelly R.; Herring, Amy H.; Lewis, Cora E.; Stefanick, Marcia L.; LaCroix, Andrea Z.  
**Source:** Journal of the American Geriatrics Society; Nov 2017; vol. 65 (no. 11); p. 2480-2487  
**Abstract:** Objectives To examine whether moderate to vigorous physical activity (MVPA) measured using accelerometer is associated with incident falls and whether associations differ according to physical function or history of falls. Design Prospective study with baseline data collection from 2012 to 2014 and 1 year of follow-up. Setting Women's Health Initiative participants living in the United States. Participants Ambulatory women aged 63 to 99 (N = 5,545). Measurements Minutes of MVPA per day measured using an accelerometer, functional status measured using the Short Physical Performance Battery (SPPB), fall risk factors assessed using a questionnaire, fall injuries assessed in a telephone interview, incident falls ascertained from fall calendars. Results Incident rate ratios (IRRs) revealed greater fall risk in women in the lowest quartile of MVPA compared to those in the highest (IRR = 1.18, 95% confidence interval = 1.01-1.38), adjusted for age, race and ethnicity, and fall risk factors. Fall rates were not significantly associated with MVPA in women with high SPPB scores (9-12) or one or fewer falls in the previous year, but in women with low SPPB scores (≤ 8) or a history of frequent falls, fall rates were higher in women with lower MVPA levels than in those with higher levels (interaction P < .03 and < .001, respectively). Falls in women with MVPA above the median were less likely to involve injuries requiring medical treatment (9.9%) than falls in women with lower MVPA levels (13.0%) ( P < .001). Conclusion These findings indicate that falls are not more common or injurious in older women who engage in higher levels of MVPA. These findings support encouraging women to engage in the amounts and types of MVPA that they prefer. Older women with low physical function or frequent falls with low levels of MVPA are a high-risk group for whom vigilance about falls prevention is warranted.  
**Database:** CINAHL

**Risk Factors for Falls Among Hospitalized Acute Post-Ischemic Stroke Patients.**

**Author(s):** Cox, Robynn; Buckholtz, Beth; Bradas, Cheryl; Bowden, Victoria; Kerber, Kathleen; McNett, Molly M  
**Source:** The Journal of neuroscience nursing : journal of the American Association of Neuroscience Nurses; Dec 2017; vol. 49 (no. 6); p. 355-360  
**Abstract:** BACKGROUND Falls remain an important benchmarking indicator for hospitals. Research identifies factors associated with falls among hospitalized patients in general. Similarly, the stroke literature outlines fall risk factors in the inpatient rehabilitation and community setting. PURPOSE The aim of this study was to identify prevalence and risk factors for falls among acute, hospitalized AIS patients within an urban public healthcare system. Secondary aims were to identify activities present at the time of the fall and outcomes associated with falling. METHOD This is a retrospective case-control study. Data were abstracted and merged from hospital stroke and fall registries and matched with medical records from 2013 to 2015 among all adult patients admitted for AIS. RESULT The study
included 856 patients with AIS, with 2.3% experiencing a fall during the acute care hospitalization period. Falls among patients with AIS accounted for 1.4% of all hospitalized adult falls. Bivariate analysis indicate that a higher proportion of falls occurred among male patients when compared with female patients (75% male; \( \chi^2 = 3.964, P < .05 \)) and among patients with a history of previous myocardial infarction or renal insufficiency (\( \chi^2 = 5.260, P < .05; \chi^2 = 11.116, P < .001 \), respectively). Multivariate analyses identify previous myocardial infarction (OR, 2.5; 95% confidence interval, 1.0-6.3; \( P = 0.04 \)) and renal insufficiency (odds ratio, 4.2; 95% confidence interval, 1.5-12.2; \( P = 0.008 \)) as strongest predictors of falls. The occurrence of a fall resulted in increased hospital length of stay (7.1 vs 4.0 days, \( P < .000 \)) and slightly decreased functional outcome at discharge. Most falls occurred during the day shift while toileting, despite implementation and adherence to fall prevention programs.

CONCLUSIONS
Fall rates among hospitalized patients with AIS are low, which may be reflective of increased vigilance among providers and widespread integration of fall prevention strategies. Consistent with the fall literature among other populations, the occurrence of a fall in the inpatient setting can substantially increase length of stay.

Database: Medline

Older adult falls prevention behaviors 60 days post-discharge from an urban emergency department after treatment for a fall.

Author(s): Shankar, Kalpana Narayan; Treadway, Nicole J; Taylor, Alyssa A; Breaud, Alan H; Peterson, Elizabeth W; Howland, Jonathan

Source: Injury epidemiology; Dec 2017; vol. 4 (no. 1); p. 18

Abstract: BACKGROUND Falls are a common and debilitating health problem for older adults. Older adults are often treated and discharged home by emergency department (ED)-based providers with the hope they will receive falls prevention resources and referrals from their primary care provider. This descriptive study investigated falls prevention activities, including interactions with primary care providers, among community-dwelling older adults who were discharged home after presenting to an ED with a fall-related injury.

METHODS We enrolled English speaking patients, aged ≥ 65 years, who presented to the ED of an urban level one trauma center with a fall or fall related injury and discharged home. During subjects’ initial visits to the ED, we screened and enrolled patients, gathered patient demographics and provided them with a flyer for a Matter of Balance course. Sixty-days post enrollment, we conducted a phone follow-up interview to collect information on post-fall behaviors including information regarding the efforts to engage family and the primary care provider, enroll in a falls prevention program, assess patients’ attitudes towards falling and experiences with any subsequent falls.

RESULTS Eighty-seven community-dwelling people between the ages of 65 and 90 were recruited, the majority (76%) being women. Seventy-one percent of subjects reported talking to their provider regarding the fall; 37% reported engaging in falls prevention activities. No subjects reported enrolling in a fall prevention program although two reported contacting falls program staff. Fourteen percent of subjects \((n=12)\) reported a recurrent fall and 8% \((7)\) reported returning to the ED after a recurrent fall.

CONCLUSIONS Findings indicate a low rate of initiating fall prevention behaviors following an ED visit for a fall-related injury among community-dwelling older adults, and highlight the ED visit as an important, but underutilized, opportunity to mobilize health care resources for people at high risk for subsequent falls.

Database: Medline

Falls self-efficacy and falls incidence in community-dwelling older people: the mediating role of coping.

Author(s): Loft, Christine C; Jones, Fergal W; Kneebone, Ian I

Source: International psychogeriatrics; Nov 2017 ; p. 1-7

Abstract: BACKGROUND A cognitive behavioral model predicts that coping responses mediate the relationship between falls related psychological concerns and falls incidence, in community-dwelling older people. If empirical support could be found for this pathway then interventions could be developed to reduce falls risk by targeting coping strategies. Therefore, this study aimed to begin the process of testing whether coping responses mediate the association between falls self-efficacy (a
principal element of falls related psychological concerns) and falls incidence, in community-dwelling older people.METHODIn a cross-sectional design, 160 community-dwelling older people (31 male, 129 female; mean age 83.47 years) completed the Falls Efficacy Scale-International, the Revised-Ways of Coping Questionnaire, the Turning to Religion subscale of the COPE, and a falls questionnaire. Data were analyzed via mediation analysis using a bootstrapping approach.RESULTSLower falls self-efficacy was associated with higher falls incidence, and more self-controlling coping was found to be a partial mediator of this association, with a confidence interval for the indirect effect of (0.003, 0.021) and an effect size of $\kappa^2 = 0.035$. The association was not mediated by the other measured coping responses: namely, turning to religion, distancing, seeking social support, accepting responsibility, escape-avoidance, planful problem-solving, and positive reappraisal.CONCLUSIONS Self-controlling coping may mediate the association between falls self-efficacy and falling. If longitudinal studies confirm this finding then coping could be targeted in interventions to reduce falls.

Database: Medline

Comparisons of Interventions for Preventing Falls in Older Adults: A Systematic Review and Meta-analysis.

Author(s): Tricco, Andrea C; Thomas, Sonia M; Veroniki, Areti Angeliki; Hamid, Jemila S; Cogo, Elise; Strilfer, Lisa; Khan, Paul A; Robson, Reid; Sibley, Kathryn M; MacDonald, Heather; Riva, John J; Thavorn, Kednapa; Wilson, Charlotte; Holroyd-Leduc, Jayna; Kerr, Gillian D; Feldman, Fabio; Majumdar, Sumit R; Jaglal, Susan B; Hui, Wing; Straus, Sharon E

Source: JAMA; Nov 2017; vol. 318 (no. 17); p. 1687-1699

Abstract: Importance Falls result in substantial burden for patients and health care systems, and given the aging of the population worldwide, the incidence of falls continues to rise. Objective To assess the potential effectiveness of interventions for preventing falls. Data Sources MEDLINE, Embase, Cochrane Central Register of Controlled Trials, and Ageline databases from inception until April 2017. Reference lists of included studies were scanned. Study Selection Randomized clinical trials (RCTs) of fall-prevention interventions for participants aged 65 years and older. Data Extraction and Synthesis Pairs of reviewers independently screened the studies, abstracted data, and appraised risk of bias. Pairwise meta-analysis and network meta-analysis were conducted. Main Outcomes and Measures Injurious falls and fall-related hospitalizations. Results A total of 283 RCTs (159,910 participants; mean age, 78.1 years; 74% women) were included after screening of 10,650 titles and abstracts and 1210 full-text articles. Network meta-analysis (including 54 RCTs, 41,596 participants, 39 interventions plus usual care) suggested that the following interventions, when compared with usual care, were associated with reductions in injurious falls: exercise (odds ratio [OR], 0.51 [95% CI, 0.33 to 0.79]; absolute risk difference [ARD], -0.67 [95% CI, -1.10 to -0.24]); combined exercise and vision assessment and treatment (OR, 0.17 [95% CI, 0.07 to 0.38]; ABD, -1.79 [95% CI, -2.63 to -0.96]); combined exercise, vision assessment and treatment, and environmental assessment and modification (OR, 0.30 [95% CI, 0.13 to 0.70]; ARD, -1.19 [95% CI, -2.04 to -0.35]); and combined clinic-level quality improvement strategies (eg, case management), multifactorial assessment and treatment (eg, comprehensive geriatric assessment), calcium supplementation, and vitamin D supplementation (OR, 0.12 [95% CI, 0.03 to 0.55]; ARD, -2.08 [95% CI, -3.56 to -0.60]). Pairwise meta-analyses for fall-related hospitalizations (2 RCTs; 516 participants) showed no significant association between combined clinic- and patient-level quality improvement strategies and multifactorial assessment and treatment relative to usual care (OR, 0.78 [95% CI, 0.33 to 1.81]). Conclusions and Relevance Exercise alone and various combinations of interventions were associated with lower risk of injurious falls compared with usual care. Choice of fall-prevention intervention may depend on patient and caregiver values and preferences.

Database: Medline

Identifying protective and risk factors for injurious falls in patients hospitalized for acute care: a retrospective case-control study.

Author(s): Aryee, Emmanuel; James, Spencer L; Hunt, Guenola M; Ryder, Hilary F

Source: BMC geriatrics; Nov 2017; vol. 17 (no. 1); p. 260
Abstract: BACKGROUND: Admitted patients who fall and injure themselves during an acute hospitalization incur increased costs, morbidity, and mortality, but little research has been conducted on identifying inpatients at high risk to injure themselves in a fall. Falls risk assessment tools have been unsuccessful due to their low positive predictive value when applied broadly to entire hospital populations. We aimed to identify variables associated with the risk of or protection against injurious fall in the inpatient setting. We also aimed to test the variables in the ABCs mnemonic (Age > 85, Bones-orthopedic conditions, anti-Coagulation and recent surgery) for correlation with injurious fall.

METHODS: We performed a retrospective case-control study at an academic tertiary care center comparing admitted patients with injurious fall to admitted patients without fall. We collected data on the demographics, medical and fall history, outcomes, and discharge disposition of injured fallers and control patients. We performed multivariate analysis of potential risk factors for injurious fall with logistic regression to calculate adjusted odds ratios.

RESULTS: We identified 117 injured fallers and 320 controls. There were no differences in age, anti-coagulation use or fragility fractures between cases and controls. In multivariate analysis, recent surgery (OR 0.46, p = 0.003) was protective; joint replacement (OR 5.58, P = 0.002), psychotropic agents (OR 2.23, p = 0.001), the male sex (OR 2.08, p = 0.003) and history of fall (OR 2.08, p = 0.02) were significantly associated with injurious fall.

CONCLUSION: In this study, the variables in the ABCs parameters were among the variables not useful for identifying inpatients at risk of injuring themselves in a fall, while other non-ABCs variables demonstrated a significant association with injurious fall. Recent surgery was a protective factor, and practices around the care of surgical patients could be extrapolated to reduce the in-hospital fall rates.

Database: Medline

Is Fear of Falling Associated With Decline in Global Cognitive Functioning in Older Adults: Findings From the Irish Longitudinal Study on Ageing.

Author(s): Peeters, Geeske; Leahy, Siobhan; Kennelly, Sean; Kenny, Rose Anne

Source: Journal of the American Medical Directors Association; Nov 2017

Abstract: BACKGROUND: Fear of falling (FoF) is present in 20% to 85% of older adults and may be an early marker of decline in global cognitive functioning (GCF). We tested the hypothesis that FoF is associated with lower levels of GCF (cross-sectional) and greater decline in GCF (prospective) in adults aged 50 and older.

DESIGN: Observational cohort study.

SETTING: The Irish Longitudinal Study on Ageing, a population-based study.

PARTICIPANTS: Data were from 4931 participants (mean age 62.9 ± 9.1, range 50-98, 54.3% female).

MEASUREMENTS: FoF was based on self-report in 2010. GCF was measured with the Montreal Cognitive Assessment (MoCA) and Mini Mental Status Examination (MMSE) in 2010 and 2014. The cross-sectional association was examined using linear regression unadjusted and after adjustment for demographic and health factors. The prospective association between FoF and the odds of >1-SD decline in GCF were examined using logistic regression. Interaction with age and mediation by social and physical activities were examined.

RESULTS: In 2010, 21.9% of participants reported FoF. In the unadjusted cross-sectional models, those with FoF had lower scores on the MoCA (B -1.15, 95% confidence interval [CI] -1.40 to -0.90) and MMSE (B -0.52, CI -0.67 to -0.37). In the unadjusted prospective models, FoF was associated with a greater odds of decline in MoCA (odds ratio [OR] 1.60, CI 1.26-2.04) and MMSE (OR 1.64, CI 1.29-2.08). After adjustment for covariates, all associations attenuated and were no longer statistically significant, except the association with decline in MoCA (OR 1.32, CI 1.01-1.71). No statistically significant interaction with age was found (P > .37). Additional adjustment for social and physical activity did not change the results.

CONCLUSION: The findings provide weak evidence for FoF as a predictor of cognitive decline.

Database: Medline

Implementation of the MEDFRAT to Promote Quality Care and Decrease Falls in Community Hospital Emergency Rooms.

Author(s): McCarty, Catherine A; Woehrle, Theo A; Waring, Stephen C; Taran, Allise M; Kitch, Laura A

Source: Journal of emergency nursing: JEN : official publication of the Emergency Department Nurses Association; Nov 2017
Abstract: ABSTRACT PURPOSE To identify and implement an evidence-based fall-risk assessment tool for use in emergency departments at Essentia Health, a large, primarily rural health care delivery system with 12 emergency departments. METHODSThe Iowa Model of Evidence-Based Practice to Promote Quality Care was used to guide the process. The Memorial Emergency Department Fall-Risk Assessment Tool (MEDFRAT) was programmed into the electronic medical record, along with interventions that could be selected for 2 fall-risk levels. An education session was developed for emergency nurses about falls and MEDFRAT, with planned time for discussion about any concerns in the implementation of MEDFRAT. MEDFRAT was selected for implementation by nursing leadership because it is evidence based and appeared to be conducive to implementation in the diverse emergency departments across 12 sites in 3 states. RESULTSEducation sessions were presented to nurses at 11 of 12 emergency departments. Suggestions to support site-specific implementation were programmed into the electronic health record. Nurses expressed appreciation that they were consulted, and their feedback was incorporated into the tool before it was implemented. Resources needed at each site to implement recommended MEDFRAT interventions in the tool were identified. Needed resources were then provided to the emergency departments before implementation of MEDFRAT. CONCLUSIONSThe Iowa Model was a useful framework to select an evidence-based tool and then engage nurses in the process of implementing evidence-based practice changes in emergency departments across a diverse health care system serving a largely rural population. Ongoing follow-up will determine if this process results in fewer falls.

Database: Medline

The effect of total knee arthroplasty on patients' balance and incidence of falls: a systematic review.

Author(s): Moutzouri, M; Gleeson, N; Billis, E; Tsepis, E; Panoutosopoulou, I; Gliatis, J

Source: Knee surgery, sports traumatology, arthroscopy : official journal of the ESSKA; Nov 2017; vol. 25 (no. 11); p. 3439-3451

Abstract: PURPOSE Despite the high incidence of falls in patients with OA, few studies have explored whether falls risk is affected after patients undergo total knee arthroplasty (TKA). Therefore, the aim of this systematic review was to identify the extent of the effects of TKA on balance and incidence of falls by critically reviewing the available literature. METHODSA systematic review of published literature sources was conducted up to March 2014. All studies assessing balance and incidence of falls after TKA (without physiotherapeutic intervention) were included. The methodological quality of each study was reviewed using the Critical Appraisal Skill Programme tool. RESULTSThirteen studies were included, comprising of ten cohort studies (Level II) and three studies with Level of evidence III. CONCLUSIONS Findings provide evidence that TKA improves significantly single-limb standing balance (~60%) and dynamic balance up to 1-year following surgery (Level of evidence II). Moreover, TKA influences positively fear of falling and incidence of falls by switching 54.2% of pre-operative fallers to post-operative non-fallers (Level of evidence II-III). It is highlighted that knee extension strength, proprioception and symmetrization of postural strategies have not fully recovered post-TKA and influence balance performance. Clinically, these persistent deficits need to be mitigated by physiotherapy even before TKA takes place.

Database: Medline

Natural history of falls in an incident cohort of Parkinson's disease: early evolution, risk and protective features.

Author(s): Lord, Sue; Galna, Brook; Yarnall, Alison J; Morris, Rosie; Coleman, Shirley; Burn, David; Rochester, Lynn

Source: Journal of neurology; Nov 2017; vol. 264 (no. 11); p. 2268-2276

Abstract: The natural history of falls in early Parkinson's disease (PD) is poorly understood despite the profound effect of falls on outcome. The primary aim of this study was to describe the natural history of falls, and characterise fallers over 54 months in 99 newly diagnosed people with PD. Seventy-nine (79.7%) participants fell over 54 months and 20 (20.3%) remained falls-naive. Twenty-six (26.2%) reported retrospective falls at baseline. Gait outcomes, disease severity and self-efficacy
significantly discriminated across groups. Subjective cognitive complaints emerged as the only significant cognitive predictor. Without exception, outcomes were better for non-fallers compared with fallers at any time point. Between group differences for 54 month fallers and non-fallers were influenced by the inclusion of retrospective fallers and showed a broader range of discriminant characteristics, notably stance time variability and balance self-efficacy. Single fallers (n = 7) were significantly younger than recurrent fallers (n = 58) by almost 15 years (P = 0.013). Baseline performance in early PD discriminates fallers over 54 months, thereby identifying those at risk of falls. Clinical profiles for established and emergent fallers are to some extent distinct. These results reiterate the need for timely interventions to improve postural control and gait.

Database: Medline

Prediction of falls in subjects suffering from Parkinson's disease, multiple sclerosis and stroke.

Author(s): Beghi, Ettore; Gervasoni, Elisa; Pupillo, Elisabetta; Bianchi, Elisa; Montesano, Angelo; Aprile, Irene; Agostini, Michela; Rovaris, Marco; Cattaneo, Davide; NEUROFALL Group.

Source: Archives of physical medicine and rehabilitation; Nov 2017

Abstract: OBJECTIVE To compare the risk of falls and fall predictors in patients with Parkinson's disease (PD), multiple sclerosis (MS) and stroke using the same study design. DESIGN Multicenter prospective cohort study. SETTING Three [masked] institutions for physical therapy and rehabilitation. PARTICIPANTS Patients with PD, MS and stroke seen for rehabilitation. MAIN OUTCOME MEASURES Functional scales were applied to investigate balance, disability, daily performance, self-confidence with balance, and social integration. Patients were followed for 6 months. Telephone interviews were organized at 2, 4 and 6 months to record falls and fall-related injuries. Incidence ratios, Kaplan-Meier survival curves and Cox proportional hazards models were used. RESULTS 299 patients (MS 111, PD and stroke 94 each) were enrolled and 259 had complete follow-up. One hundred and twenty-two (47.1%) fell at least once; 82 (31.7%) were recurrent fallers, 44 (17.0%) suffered injuries; 16%, 32% and 40% fell at 2, 4 and 6 months. Risk of falls was associated with disease type (PD, MS and stroke in decreasing order) and confidence with balance (ABC scale). Recurrent fallers were 7%, 15% and 24% at 2, 4 and 6 months. The risk of recurrent falls was associated with disease type, high educational level and the ABC score. Injured fallers were 3%, 8% and 12% at 2, 4 and 6 months. The only predictor of falls with injuries was disease type (PD). CONCLUSION SPD, MS and stroke carry a high risk of falls. Other predictors include perceived balance confidence and high educational level.

Database: Medline

PRESSURE ULCERS

Patients' Perceptions of a Pressure Ulcer Prevention Care Bundle in Hospital: A Qualitative Descriptive Study to Guide Evidence-Based Practice

Author(s): Roberts, Shelley; Wallis, Marianne; McInnes, Elizabeth; Bucknall, Tracey; Banks, Merrilyn; Ball, Lauren; Chaboyer, Wendy

Source: Worldviews on Evidence-Based Nursing; Oct 2017; vol. 14 (no. 5); p. 385

Abstract: Background Pressure ulcers place a significant burden on patients and hospitals. Our team developed and tested a pressure ulcer prevention care bundle (PUPCB) in a cluster randomized trial. As part of the process evaluation conducted alongside the trial, we explored patients' perceptions of the intervention. Aims To identify patients' perceptions and experiences of a PUPCB in hospital. Methods This qualitative descriptive study explored the perceptions of a subset of patients who participated in a trial testing the PUPCB across four intervention hospitals. A trained interviewer conducted semistructured interviews, which were digitally recorded, transcribed, and analyzed using thematic analysis. Findings Nineteen patients were interviewed across the four hospitals. Three main themes emerged: (a) importance of personal contact in PUPCB delivery; (b) understanding pressure
ulcer prevention (PUP) enhances participation; and (c) individual factors impact patients’ engagement in PUP. Discussion The extent to which patients adopted the intervention appeared to be influenced by the complexity of education materials, compatibility with patients’ existing knowledge and beliefs, and perceived advantage of the intervention; ability for human interaction; and patient-related facilitators and barriers to participating in PUP care. Linking Evidence to Action This study found patients accepted a PUPCB that encouraged participation in care, particularly as it involved personal and positive interactions with nurses and provision of information that was easy to understand and resonated with patients.

Database: BNI

Exploring factors associated with pressure ulcers in long-term care facilities using decision tree analysis: Use of the Health Insurance Review and Assessment Service National Inpatient Sample
Author(s): Moon, Mikyung; Lee, Soo-Kyoung
Source: Western Journal of Nursing Research; Oct 2017; vol. 39 (no. 10); p. 1378
Abstract: Abstract not available.
Database: BNI

Getting evidence-based pressure ulcer prevention into practice: a process evaluation of a multifaceted intervention in a hospital setting
Author(s): Sving, Eva; Fredriksson, Lennart; Gunningberg, Lena; Mamhidir, Anna-Greta
Source: Journal of Clinical Nursing; Oct 2017; vol. 26 (no. 19-20); p. 3200
Abstract: Aims and objectives To describe registered nurses’, assistant nurses’ and first-line managers’ experiences and perceptions of a multifaceted hospital setting intervention focused on implementing evidence-based pressure ulcer prevention. Background Pressure ulcer prevention is deficient. Different models exist to support implementation of evidence-based care. Little is known about implementation processes. Design A descriptive qualitative approach. Method Five focus-group nurse interviews and five individual first-line manager interviews were conducted at five Swedish hospital units. Qualitative content analysis was used. Result The findings support that the intervention and the implementation process changed the understanding and way of working with pressure ulcer prevention: from treating to preventing. This became possible as ‘Changed understanding enables changed actions - through one’s own performance and reflection on pressure ulcer prevention’. Having a common outlook on pressure ulcer prevention, easy access to pressure-reducing equipment, and external and internal facilitator support were described as important factors for changed practices. Bedside support, feedback and discussions on current results increased the awareness of needed improvements. Conclusion The multifaceted intervention approach and the participants’ positive attitudes seemed to be crucial for changing understanding and working more preventatively. The strategies used and the skills of the facilitators need to be tailored to the problems surrounding the context. Feedback discussions among the staff regarding the results of the care provided also appear to be vital. Relevance to clinical practice It is crucial that dedicated facilitators are involved to promote the implementation process. A preventative mindset should be strived for. Creating an implementation plan with an outcome and a process evaluation should be emphasised. It is important to give the staff regular feedback on the quality of care and on those occasions allocate time for discussion and reflection.
Database: BNI

Pressure points: learning from Serious Case Reviews of failures of care and pressure ulcer problems in care homes
Author(s): Manthorpe, Jill; Martineau, Stephen
Source: The Journal of Adult Protection; 2017; vol. 19 (no. 5); p. 284-296
Abstract: Purpose Serious Case Reviews (SCRs, now Safeguarding Adults Reviews (SARs)) may be held at local level in England when a vulnerable adult dies or is harmed, and abuse or neglect is suspected, and there is cause for concern about multi-agency safeguarding practice. There has been no analysis of SCRs focussing on pressure ulcers. The purpose of this paper is to present findings from a documentary analysis of SCRs/SARs to investigate what recommendations are made about pressure ulcer prevention and treatment in a care home setting in the context of safeguarding. This analysis is presented in cognisance of the prevalence and risks of pressure ulcers among care home residents; and debates about the interface of care quality and safeguarding systems.

Design/methodology/approach Identification of SCRs and SARs from England where the person who died or who was harmed had a pressure ulcer or its synonym. Narrative and textual analysis of documents summarising the reports was used to explore the Reviews' observations and recommendations. The main themes were identified. Findings The authors located 18 relevant SCRs and 1 SAR covering pressure ulcer care in a care home setting. Most of these inquiries into practice, service communications and the events leading up to the death or harm of care home residents with pressure ulcers observed that there were failings in the care home, but also in the wider health and care systems. Overall, the reports reveal specific failings in multi-agency communication and in quality of care. Pressure ulcers featured in several SCRs, but it is problems and inadequacies with care and treatment that moved them to the safeguarding arena. The value of examining pressure ulcers as a key line of inquiry is that they are “visible” in the system, with consensus about what they are, how to measure them and what constitutes optimal care and treatment. In the new Care Act 2014 context they may continue to feature in safeguarding enquiries and investigations as they may be possible symptoms of system failures. Research limitations/implications Reviews vary in content, structure and accessibility making it hard to compare their approach, findings and recommendations. There are risks in drawing too many conclusions from the corpus of Reviews since these are not published in full and contexts have subsequently changed. However, this is the first analysis of these documents to take pressure ulcers as the focus and it offers valuable insights into care home practices amid other systems and professional activity. Practical implications This analysis highlights that it is not inevitably poor quality care in a care home that gives rise to pressure ulcers among residents. Several SCRs note problems in wider communications with healthcare providers and their engagement. Nonetheless, poor care quality and negligence were reported in some cases. Various policies have commented on the potential overlap between the raising of concerns about poor quality care and about safeguarding. These were highlighted prior to the Care Act 2014 although current policy views problems with pressure ulcers more as care quality and clinical concerns. Social implications The value of this documentary analysis is that it rests on real case examples and scrutiny at local level. Future research could consider the findings of SARs, similar documents from the rest of the UK, and international perspectives. Originality/value The value of having a set of documents about adult safeguarding is that they lend themselves to analysis and comparison. This first analysis to focus on pressure ulcers addresses wider considerations related to safeguarding policy and practice.

Database: BNI

Unavoidable pressure ulcers at the end of life and nurse understanding.

Author(s): Carlsson, Maria; Gunningberg, Lena

Source: British Journal of Nursing; Nov 2017; vol. 26

Available at British Journal of Nursing - from EBSCO (CINAHL with Full Text)
Available at British Journal of Nursing - from EBSCO (CINAHL Complete)

Abstract: Objectives: prevention of pressure ulcers (PUs) in end-of-life care is often problematic because both PUs and interventions to prevent them can cause suffering. The primary aim of this study was to identify and describe the different ways in which nurses understood unavoidable PUs in late palliative care. A second aim was to explore the expediency of the different levels of understanding. Methods: a qualitative interview study with a phenomenographic approach was carried out. The study participants were nurses and healthcare assistants who worked in nursing homes or in specialist palliative inpatient care units run by private providers, non-profit foundations, municipalities and county councils. A phenomenographic analysis of the interview data was undertaken. Results: all participants shared a fundamental understanding that the prevention of PUs is highly worthwhile in end-of-life care. Within this common view, practitioners’ understanding of whether PUs could be
prevented differed in four main ways, and were divided into categories: A: unavoidable PUs do not exist. All can be prevented if all interventions are applied, and all patients are at the same risk for developing PUs in end-of-life care; B: unavoidable PUs do not exist, but some patients do not participate in prevention interventions, which makes prevention difficult. The risk of developing pressure ulcers in end-of-life care varies between patients; C: some PUs are unavoidable because some patients do not participate in prevention interventions; the risk of developing pressure ulcers in end-of-life care differs between patients. D: some PUs are unavoidable, depending on the pathophysiological processes in the dying body. The risk of developing pressure ulcers in end-of-life care differs between patients. Conclusion: It is paramount to communicate to nurses that not all PUs can be prevented in dying patients, to lessen the burden of ethical stress for the nurses.

**Database:** CINAHL

*Why is the heel particularly vulnerable to pressure ulcers?*

**Author(s):** Gefen, Amit  
**Source:** British Journal of Nursing; Nov 2017; vol. 26  
Available at British Journal of Nursing - from EBSCO (CINAHL with Full Text)  
Available at British Journal of Nursing - from EBSCO (CINAHL Complete)  
**Abstract:** In this article, the vulnerability of the soft tissues of the heel to pressure ulcers (injuries) is explained from a biomechanical engineering perspective, and emerging technologies for protecting the heel, particularly low-friction garments, are reviewed. Sustained deformations in the soft tissue of the weight-bearing posterior heel cause progressive cell and tissue damage due to loss of homeostasis in the cells, as the cytoskeleton and plasma membranes of the affected cells lose integrity and functionality. This deformation damage onsets and evolves rapidly when there is no relief of the tissue distortion (e.g., in supine motionless lying). Hence, prevention should be timely and be applied across all patient populations that are at risk. In particular there is a need to protect tissues from the action of frictional forces that are shearing not only the skin but also the deep tissue structures of the heel. The internal anatomy and physiology of the posterior heel, the common hospital conditions (lying supine, head of the bed elevated) and medical conditions involving neuropathy and perfusion impairments may impose specific risk for heel (pressure) ulcers. There is growing evidence that low-friction-fabric garments may provide added benefits in preventing heel ulcers when used in addition to standard clinical and technology-supported pressure ulcer prevention strategies, as the low-friction fabric structures absorb frictional forces before these are able to considerably distort the susceptible heel tissues.  
**Database:** CINAHL

*Pressure ulcer prevention with a new mattress.*  
**Author(s):** Payne, Drew  
**Source:** Nursing & Residential Care; Nov 2017; vol. 19 (no. 11); p. 613-615  
**Database:** CINAHL

*Are we overcomplicating pressure ulcer risk assessment?*  
**Author(s):**  
**Source:** Wounds UK; Nov 2017; vol. 13 (no. 4); p. 14-17  
Available at Wounds UK - from EBSCO (CINAHL with Full Text)  
Available at Wounds UK - from EBSCO (CINAHL Complete)  
**Abstract:** The article presents the views of Alison Schofield, Edda Johansen and Joanna Swan on the use of risk assessment strategy in preventing pressure ulcer. Topics discussed include analysis of sensitivity, specificity and reliability associated with risk assessment tool; evaluation of the process of care used in risk assessment for the prevention of pressure ulcer; and planning of appropriate care.
The 3-risk approach to pressure ulcer assessment in Norway – safe or a risky business?

Author(s): JOHANSEN, EDDA

Source: Wounds UK; Nov 2017; vol. 13 (no. 4); p. 50-52

Available at Wounds UK. - from EBSCO (CINAHL with Full Text)
Available at Wounds UK. - from EBSCO (CINAHL Complete)

Abstract: Successful prevention of Pressure Ulcers (PU) requires that at-risk patients are identified and provided with a package of measures. In Norway, the use of numerical risk assessment tools like Braden, Norton and Waterlow has never been widespread. Instead, a non-numerical approach based on immobility and clinical judgment is recommended by the National Patient Safety Programme to identify those at risk. This article describes the 3-risk approach to risk assessment, its development and whether an even simpler approach could be safe.

Database: CINAHL

Reducing hospital-acquired pressure ulcers: the business case for purchasing new technology.

Author(s): LOI, SONYA

Source: Wounds UK; Nov 2017; vol. 13 (no. 4); p. 70-73

Available at Wounds UK. - from EBSCO (CINAHL with Full Text)
Available at Wounds UK. - from EBSCO (CINAHL Complete)

Abstract: There is considerable variation in the way pressure ulcer prevention and management are handled within individual organisations. In an effort to improve efficiency and make cost savings, an NHS Trust identified processes that could be simplified, reviewed its equipment contracts and assessed new technology to reduce hospital-acquired pressure ulcers. The decision was made to downgrade existing contracts to cover decontamination and maintain old equipment and to purchase hybrid mattresses, which it was estimated would prevent 17-39% of hospital-acquired pressure ulcers, returning cost efficiencies of £740,100-£1,694,29. Taking into account the cost of the downgraded contract, this could realise a cost saving of £1,400,731.50 over 7 years and enable the Trust to achieve its pressure ulcer reduction targets.

Database: CINAHL

The Additive Effect of Humidification With Noninvasive Ventilation (NIV) in the Development of Interface Facial Pressure Ulcers: An Experimental Study.

Author(s): Alqahtani, Jaber; Worsley, Peter; Voegeli, David

Source: CHEST; Oct 2017; vol. 152

Database: CINAHL

The cost-effectiveness of a patient centred pressure ulcer prevention care bundle: Findings from the INTACT cluster randomised trial.

Author(s): Whitty, Jennifer A.; McInnes, Elizabeth; Bucknall, Tracey; Webster, Joan; Gillespie, Brigid M.; Banks, Merrilyn; Thalib, Lukman; Wallis, Marianne; Cumsille, Jose; Roberts, Shelley; Chaboyer, Wendy

Source: International Journal of Nursing Studies; Oct 2017; vol. 75 ; p. 35-42

Abstract: Background Pressure ulcers are serious, avoidable, costly and common adverse outcomes of healthcare. Objectives To evaluate the cost-effectiveness of a patient-centred pressure ulcer prevention care bundle compared to standard care. Design Cost-effectiveness and cost-benefit
analyses of pressure ulcer prevention performed from the health system perspective using data collected alongside a cluster-randomised trial. Settings Eight tertiary hospitals in Australia. Participants Adult patients receiving either a patient-centred pressure ulcer prevention care bundle (n = 799) or standard care (n = 799). Methods Direct costs related to the intervention and preventative strategies were collected from trial data and supplemented by micro-costing data on patient turning and skin care from a 4-week substudy (n = 317). The time horizon for the economic evaluation matched the trial duration, with the endpoint being diagnosis of a new pressure ulcer, hospital discharge/transfer or 28 days; whichever occurred first. For the cost-effectiveness analysis, the primary outcome was the incremental costs of prevention per additional hospital acquired pressure ulcer case avoided, estimated using a two-stage cluster-adjusted non-parametric bootstrap method. The cost-benefit analysis estimated net monetary benefit, which considered both the costs of prevention and any difference in length of stay. All costs are reported in AUS$(2015). Results The care bundle cost AUS$144.91 (95%CI: $74.96 to $246.08) more per patient than standard care. The largest contributors to cost were clinical nurse time for repositioning and skin inspection. In the cost-effectiveness analysis, the care bundle was estimated to cost an additional $3296 (95%CI: dominant to $144,525) per pressure ulcer avoided. This estimate is highly uncertain. Length of stay was unexpectedly higher in the care bundle group. In a cost-benefit analysis which considered length of stay, the net monetary benefit for the care bundle was estimated to be −$2320 (95%CI −$3900, −$1175) per patient, suggesting the care bundle was not a cost-effective use of resources. Conclusions A pressure ulcer prevention care bundle consisting of multicomponent nurse training and patient education may promote best practice nursing care but may not be cost-effective in preventing hospital acquired pressure ulcer.

Database: CINAHL

Length of surgery and pressure ulcers risk in cardiovascular surgical patients: a dose-response meta-analysis.

Author(s): Chen, Hong-Lin; Shen, Wang-Qin; Liu, Peng; Liu, Kun

Source: International Wound Journal; Oct 2017; vol. 14 (no. 5); p. 864-869

Abstract: ABSTRACT The aim of this study was to assess the relationship between length of surgery (LOS) and pressure ulcer (PU) risk in cardiovascular surgery patients. PubMed and Web of Science were systematically searched. We compared LOS difference between PU (+) group and PU (−) group. We also examined the dose-response effect of this relationship. The mean LOS in the PU(+) groups ranged from 252·5 to 335·7 minutes, compared with 233·0 to 298·3 minutes in PU(−) groups. The LOS was higher in PU(+) groups compared with PU(−) groups [weighted mean difference (WMD) = 36·081 minutes; 95% CI: 21·640-50·522 minutes; Z = 4·90, P = 0·000]. The funnel plot showed no publication bias. A significant dose-response association was also found between the LOS and the risk of surgery-related pressure ulcers (SRPU, model \( \chi^2 = 9·29, P = 0·000 \)). In the linear model, the PU OR was 1·296 (95% CI 1·097-1·531) for a 60-minute increase in the LOS intervals and 13·344 (95% CI 2·521-70·636) for a 600-minute increase. In a spline model, the OR of PU increased almost linearly along with the LOS. Our meta-analysis indicated that LOS was an important risk factor for pressure ulcers in cardiovascular surgical patients.

Database: CINAHL

Validity of the Braden Scale in grading pressure ulcers in trauma and burn patients.

Author(s): Griswold, Lauren H; Griffin, Russell L; Swain, Thomas; Kerby, Jeffrey D

Source: The Journal of surgical research; Nov 2017; vol. 219; p. 151-157

Abstract: BACKGROUND Pressure ulcers are a costly hospital-acquired condition in terms of clinical outcome and expense. The Braden Scale was developed in 1987 as a risk scoring method for pressure ulcers and uses six different risk factors: sensory perception, moisture, activity, mobility, nutrition, and friction and shear. A score of ≤18 is considered high risk. To date, research on the utility of the Braden Scale has focused on general medicine and nontrauma/burn surgery patients. We hypothesize that the Braden Scale does not accurately discriminate who will get a pressure ulcer among trauma and burn patients.

METHODS We collected data from medical records regarding
The Braden scale has mediocre discriminatory ability among the trauma/burn population. In addition, the low positive likelihood ratio suggests that the Braden scale may not be a useful clinical tool as it may result in unnecessary expenditure of time and personnel resources in preventing pressure ulcer formation.

**Database:** Medline

**Foam dressings for treating pressure ulcers.**

**Author(s):** Walker, Rachel M; Gillespie, Brigid M; Thalib, Lukman; Higgins, Niall S; Whitty, Jennifer A

**Source:** The Cochrane database of systematic reviews; Oct 2017; vol. 10; p. CD011332

**Abstract:** BACKGROUND Pressure ulcers, also known as pressure injuries and bed sores, are localised areas of injury to the skin or underlying tissues, or both. Dressings made from a variety of materials, including foam, are used to treat pressure ulcers. An evidence-based overview of dressings for pressure ulcers is needed to enable informed decision-making on dressing use. This review is part of a suite of Cochrane Reviews investigating the use of dressings in the treatment of pressure ulcers. Each review will focus on a particular dressing type.

**OBJECTIVE** To assess the clinical and cost effectiveness of foam wound dressings for healing pressure ulcers in people with an existing pressure ulcer in any care setting.

**SEARCH METHODS** In February 2017 we searched: the Cochrane Wounds Specialised Register; the Cochrane Central Register of Controlled Trials (CENTRAL); Ovid MEDLINE (including In-Process & Other Non-Indexed Citations); Ovid Embase; EBSCO CINAHL Plus and the NHS Economic Evaluation Database (NHS EED). We also searched clinical trials registries for ongoing and unpublished studies, and scanned reference lists of relevant included studies as well as reviews, meta-analyses and health technology reports to identify additional studies. There were no restrictions with respect to language, date of publication or study setting.

**SELECTION CRITERIA** Published or unpublished randomised controlled trials (RCTs) and cluster-RCTs, that compared the clinical and cost effectiveness of foam wound dressings for healing pressure ulcers (Category/Stage II or above).

**DATA COLLECTION AND ANALYSIS** Two review authors independently performed study selection, risk of bias and data extraction. A third reviewer resolved discrepancies between the review authors.

**MAIN RESULTS** We included nine trials with a total of 483 participants, all of whom were adults (59 years or older) with an existing pressure ulcer Category/Stage II or above. All trials had two arms, which compared foam dressings with other dressings for treating pressure ulcers. The certainty of evidence ranged from low to very low due to various combinations of selection, performance, attrition, detection and reporting bias, and imprecision due to small sample sizes and wide confidence intervals. We had very little confidence in the estimate of effect of included studies. Where a foam dressing was compared with another foam dressing, we established that the true effect was likely to be substantially less than the study's estimated effect. We present data for four comparisons. One trial compared a silicone foam dressing with another (hydropolymer) foam dressing (38 participants), with an eight-week (short-term) follow-up. It was uncertain whether alternate types of foam dressing affected the incidence of healed pressure ulcers (RR 0.89, 95% CI 0.45 to 1.75) or adverse events (RR 0.37, 95% CI 0.04 to 3.25), as the certainty of evidence was very low, downgraded for serious limitations in study design and very serious imprecision. Four trials with a median sample size of 20 participants (230 participants), compared foam dressings with hydrocolloid dressings for eight weeks or less (short-term). It was uncertain whether foam dressings affected the probability of healing in comparison to hydrocolloid dressings over a short follow-up period in three
trials (RR 0.85, 95% CI 0.54 to 1.34), very low-certainty evidence, downgraded for very serious study limitations and serious imprecision. It was uncertain if there was a difference in risk of adverse events between groups (RR 0.88, 95% CI 0.37 to 2.11), very low-certainty evidence, downgraded for serious study limitations and very serious imprecision. Reduction in ulcer size, patient satisfaction/acceptability, pain and cost effectiveness data were also reported but we assessed the evidence as being of very low certainty. One trial (34 participants), compared foam and hydrogel dressings over an eight-week (short-term) follow-up. It was uncertain if the foam dressing affected the probability of healing (RR 1.00, 95% CI 0.78 to 1.28), time to complete healing (MD 5.67 days 95% CI -4.03 to 15.37), adverse events (RR 0.33, 95% CI 0.01 to 7.65) or reduction in ulcer size (MD 0.30 cm\(^2\) per day, 95% CI -0.15 to 0.75), as the certainty of the evidence was very low, downgraded for serious study limitations and very serious imprecision. The remaining three trials (181 participants) compared foam with basic wound contact dressings. Follow-up times ranged from short-term (8 weeks or less) to medium-term (8 to 24 weeks). It was uncertain whether foam dressings affected the probability of healing compared with basic wound contact dressings, in the short term (RR 1.33, 95% CI 0.62 to 2.88) or medium term (RR 1.17, 95% CI 0.79 to 1.72), or affected time to complete healing in the medium term (MD -35.80 days, 95% CI -56.77 to -14.83), or adverse events in the medium term (RR 0.58, 95% CI 0.33 to 1.05). This was due to the very low-certainty evidence, downgraded for serious to very serious study limitations and imprecision. Reduction in ulcer size, patient satisfaction/acceptability, pain and cost effectiveness data were also reported but again, we assessed the evidence as being of very low certainty. None of the included trials reported quality of life or pressure ulcer recurrence. AUTHORS' CONCLUSIONS It is uncertain whether foam dressings are more clinically effective, more acceptable to users, or more cost effective compared to alternative dressings in treating pressure ulcers. It was difficult to make accurate comparisons between foam dressings and other dressings due to the lack of data on reduction of wound size, complete wound healing, treatment costs, or insufficient time-frames. Quality of life and patient (or carer) acceptability/satisfaction associated with foam dressings were not systematically measured in any of the included studies. We assessed the certainty of the evidence in the included trials as low to very low. Clinicians need to carefully consider the lack of robust evidence in relation to the clinical and cost-effectiveness of foam dressings for treating pressure ulcers when making treatment decisions, particularly when considering the wound management properties that may be offered by each dressing type and the care context.

Database: Medline

Measurement and reporting of pressure ulcer related harm in NHS Hospitals in England.
Author(s): Samuriwo, Ray
Source: Journal of tissue viability; Oct 2017
Publication Type(s): Editorial
Database: Medline

Pressure ulcers in critically ill patients - Preventable by non-sedation? A substudy of the NONSEDA-trial.
Author(s): Nedergaard, Helene K; Haberlandt, Trine; Toft, Palle; Jensen, Hanne Irene
Source: Intensive & critical care nursing; Oct 2017
Abstract: OBJECTIVE Pressure ulcers still pose a significant clinical challenge to critically ill patients. This study is a substudy of the multicenter NONSEDA-trial, where critically ill patients were randomised to sedation or non-sedation during mechanical ventilation. The objective of this substudy was to assess if non-sedation affected the occurrence of pressure ulcers. DESIGN Retrospective assessment of data from a single NONSEDA-trial site. SETTING Mixed intensive care unit. OUTCOME MEASURES The occurrence of pressure ulcers, described by grade and location. RESULTS 205 patients were included. Patients with pressure ulcers in the two groups were comparable with regards to baseline data. There were 44 ulcers in 32 patients in the sedated group and 31 ulcers in 25 patients in the non-sedated group (p=0.08). 64% of the ulcers in sedated patients were located on sacrum and heels, whereas 68% of the ulcers in non-sedated patients were related to equipment.
CONCLUSIONS
Non-sedation did not significantly reduce the number of pressure ulcers. Non-sedation significantly affected the location of ulcers: non-sedated patients mainly had ulcers related to equipment, whereas sedated patients mainly had ulcers on the sacrum and heels.

Database: Medline

SEPSIS

Interprofessional Collaboration to Improve Sepsis Care and Survival Within a Tertiary Care Emergency Department

Author(s): Tedesco, Elizabeth R; Whiteman, Kimberly; Heuston, Melanie; Swanson-Bearman, Brenda; Stephens, Kimberly

Source: Journal of Emergency Nursing; Nov 2017; vol. 43 (no. 6); p. 532

Abstract: Problem Sepsis is a leading cause of death in the United States; however, health care providers struggle with timely recognition, diagnosis, and treatment of patients. Both the Centers for Medicare and Medicaid Services and the National Quality Forum have identified this diagnosis as a priority. Presently, many patients with sepsis are identified late, resulting in significant morbidity and death. Methods In this project, a collaborative, interprofessional approach was created for screening and early identification of ED patients with possible sepsis. The department has 38 beds with annual patient volumes of more than 40,000 visits. Education was provided about the symptoms and treatment of patients with sepsis. A screening and management algorithm tool was instituted that consisted of early identification triggers and how to intervene according to Surviving Sepsis Campaign recommendations. The tool allowed for assessment of the patient by the ED team; the team worked to determine if sepsis was present and the extent of the illness. Results During the first 4 months after implementation, more than 240 patients were screened, assessed, and treated according to the algorithm. Project outcomes resulted in an increase in staff knowledge of sepsis, a decrease in length of stay by 3 hours, and a significant decrease in mortality when compared with the previous year’s coded data. Implications for Practice This project demonstrates that sepsis education and team collaboration are an integral part of identifying and treating patients with sepsis. An interprofessional collaborative approach could be implemented in other institutions to combat the life-threatening complications of sepsis.

Database: BNI

The impact of evidence-based sepsis guidelines on emergency department clinical practice: a pre-post medical record audit

Author(s): Romero, Bernadine; Fry, Margaret; Roche, Michael

Source: Journal of Clinical Nursing; Nov 2017; vol. 26 (no. 21-22); p. 3588

Abstract: Aims and objectives To explore the number of patients presenting with sepsis before and after guideline implementation; the impact of sepsis guidelines on triage assessment, emergency department management and time to antibiotics. Background Sepsis remains one of the leading causes of mortality and morbidity within hospitals. Globally, strategies have been implemented to reduce morbidity and mortality rates, which rely on the early recognition and management of sepsis. To improve patient outcomes, the New South Wales government in Australia introduced sepsis guidelines into emergency departments. However, the impact of the guidelines on clinical practice remains unclear. Design/Methods A 12-month pre-post retrospective randomised medical record audit
of adult patients with a sepsis diagnosis. Data were extracted from the emergency department database and paper medical record. Data included patient demographic (age, gender), clinical information (time of arrival, triage code, seen by time, disposition, time to antibiotic, pathology, time to intravenous fluids) and patient assessment data (heart rate, respiratory rate, blood pressure, temperature, oxygen saturations, medication). Results This study demonstrated a statistically significant 230-minute reduction in time to antibiotics post implementation of the guidelines. The post group (n = 165) received more urgent triage categories (n = 81; 49.1%), a 758-minute reduction in mean time to second litre of intravenous fluids and an improvement in collection of lactate (n = 112, 67.9%), also statistically significant. Conclusions The findings highlight the impact the guidelines can have on clinician decision-making and behaviour that support best practice and positive patient outcomes. The sepsis guidelines improved the early assessment, recognition and management of patients presenting with sepsis in one tertiary referral emergency department. Relevance to clinical practice The use of evidenced-based guidelines can impact clinical decision-making and behaviour, resulting in the translation and support of best practice and improving patient care.

Database: BNI

Sepsis in the Community

Author(s): Karikari-Boateng, Dorothy

Source: Community Practitioner; Nov 2017; vol. 90 (no. 11); p. 32

Abstract: There is the place for sepsis as a discussion topic or technical subject in community health? Someone dies from sepsis globally every 3.5 seconds and it accounts for the majority of pregnancy-related deaths in the UK. The WHO estimates that six million lives are lost to sepsis annually. Around 44,000 of these are in the UK. It’s hard to overemphasise the importance of awareness of sepsis, its symptoms, and the steps to take in the event of a suspected case of sepsis in any health setting, in this case community health. Yet many people have either never heard of sepsis, or only in passing, until its devastating effects come knocking at their doors. In this article the author take a closer look at sepsis, its definition, causes, symptoms and treatments, and what a community practitioner can do when confronted with a suspected case of sepsis in the community, as well as resources for support.

Database: BNI

Neonatal sepsis

Author(s): Shane, Andi L; Sánchez, Pablo J; Stoll, Barbara J

Source: The Lancet; Oct 2017; vol. 390 (no. 10104); p. 1770

Available at Lancet - from Library MPH (lib307415) Local Full Text Collection [location] : Library MPH.

Abstract: Neonatal sepsis is the cause of substantial morbidity and mortality. Precise estimates of neonatal sepsis burden vary by setting. Differing estimates of disease burden have been reported from high-income countries compared with reports from low-income and middle-income countries. The clinical manifestations range from subclinical infection to severe manifestations of focal or systemic disease. The source of the pathogen might be attributed to an in-utero infection, acquisition from maternal flora, or postnatal acquisition from the hospital or community. The timing of exposure, inoculum size, immune status of the infant, and virulence of the causative agent influence the clinical expression of neonatal sepsis. Immunological immaturity of the neonate might result in an impaired response to infectious agents. This is especially evident in premature infants whose prolonged stays in hospital and need for invasive procedures place them at increased risk for hospital-acquired infections. Clinically, there is often little difference between sepsis that is caused by an identified pathogen and sepsis that is caused by an unknown pathogen. Culture-independent diagnostics, the use of sepsis prediction scores, judicious antimicrobial use, and the development of preventive measures including maternal vaccines are ongoing efforts designed to reduce the burden of neonatal sepsis.

Database: BNI
Avoidant conversations about death by clinicians cause delays in reporting of neutropenic sepsis: Grounded theory study

Author(s): Oakley, Catherine; Taylor, Cath; Ream, Emma; Metcalfe, Alison

Source: Psycho - Oncology; Oct 2017; vol. 26 (no. 10); p. 1505

Abstract: Background Evidence suggests that patients delay reporting symptoms of neutropenic sepsis (NS) despite the risk to their life. This study aimed to elicit factors that contribute to delayed patient reporting of NS symptoms. Methods A constructivist grounded theory study used observations of chemotherapy consultations (13 h) and 31 in-depth interviews to explore beliefs, experiences, and behaviors related to NS. Participants included women with breast cancer, their carers (partners, family, or friends), and clinicians. An explanation for patient delays was developed through theoretical sampling of participants to explore emerging areas of interest and through constant comparison of data and their coding. This entailed iterative and concurrent data collection and analysis. Data were collected until saturation. Results All patients who developed NS-type symptoms delayed presenting to hospital (2.5 h–8 days), sometimes repeatedly. Moderators of delay included metastatic disease, bereavement, fatalism, religious beliefs, and quality of relationships with clinicians. There was an interplay of behaviors between clinicians, patients, and carers where they subconsciously conspired to underplay the seriousness and possibility of NS occurring. Conclusions Findings have implications for health risk communication and development of holistic service models.

Database: BNI

Group B Streptococcus late onset sepsis in very low birth weight newborns: 10 years experience.

Author(s): Risso, Francesco M.; Castagnola, Elio; Bandettini, Roberto; Minghetti, Diego; Pagani, Laura; Ramenghi, Luca A.

Source: Journal of Maternal-Fetal & Neonatal Medicine; Jan 2018; vol. 31 (no. 1); p. 18-20

Abstract: Purpose: The incidence of late-onset neonatal infection (LONS) group B streptococcus (GBS) in very low birth weight (VLBW) is still matter of debate. In the present 10-years retrospective study we investigated the epidemiology of GBS LONS in VLBW neonates. Materials and Methods: From January 2006 to July 2015 we conducted a retrospective study in all preterm infants admitted at our third level referral center for neonatal intensive care (NICU). From our database we were able to retrieve all cases of bloodstream infections/meningitis GBS positive. Perinatal data were also collected. Results: On a total of 13 747 infants 975 (7%) were VLBW and in seven cases of GBS LONS was observed with a incidence of 7.2/1000 live births. Conclusions: The higher rate of LONS GBS in our series offer additional support to further investigations in wider population in order to better define GBS screening and therapeutic management in a such specific population.

Database: CINAHL

PCR-based tests for the early diagnosis of sepsis. Where do we stand?

Author(s): Ginn, Andrew N.; Halliday, Catriona L.; Douglas, Abby P.; Chen, Sharon C-A.

Source: Current Opinion in Infectious Diseases; Dec 2017; vol. 30 (no. 6); p. 565-572

Publication Date: Dec 2017

Publication Type(s): Periodical

Database: CINAHL

Plasma lactoferrin levels in newborn preterm infants with sepsis.

Author(s): Decembrino, Lidia; DeAmici, Mara; De Silvestri, Annalisa; Manzoni, Paolo; Paolillo, Piermichele; Stronati, Mauro

Source: Journal of Maternal-Fetal & Neonatal Medicine; Dec 2017; vol. 30 (no. 23); p. 2890-2893
**Abstract:** Introduction: Lactoferrin (Lf) is one of the major proteins of all exocrine secretions with a role in the antinfective process. Our aim was to evaluate how plasma Fl levels may change in response to infection in newborn preterm infants. Methods: A total of 15 (8 females, 7 males) newborn preterm infants with a postnatal age >72 h of life, underwent to blood culture and others markers of infection, for suspected sepsis, were enrolled in the study. Results: We found that Lf serum concentration was significantly lowest in four neonates (26.7%) with confirmed sepsis than in 11 (73.3%) with clinical sepsis. The AUC was 0.90 (95% CI: 0.63-0.99). The optimal cutoff for Lf was <1.2 μg/ml with a sensibility of 100% and a specificity of 81.8%. Lf serum concentration was positively correlated with WBC or neutrophil (Spearman rho = 0.69 and 0.49, respectively). Conclusions: Serum Lf could prove a promising, sensitive and specific marker in the diagnostic approach to infants with suspected sepsis, thanks to its role in defense mechanisms and physiological functions of the immune system. Low levels of Lf in sepsis may suggest an immature response due to suboptimal leukocytes activity in newborn preterm infants.

**Database:** CINAHL

**Comparison of QSOFA score and SIRS criteria as screening mechanisms for emergency department sepsis.**

**Author(s):** Haydar, Samir; Spanier, Matthew; Weems, Patricia; Wood, Samantha; Strout, Tania

**Source:** American Journal of Emergency Medicine; Nov 2017; vol. 35 (no. 11); p. 1730-1733

**Abstract:** Objectives: The Quick Sequential [Sepsis-related] Organ Failure Assessment (qSOFA) score has been shown to accurately predict mortality in septic patients and is part of recently proposed diagnostic criteria for sepsis. We sought to ascertain the sensitive of the score in diagnosing sepsis, as well as the diagnostic timeliness of the score when compared to traditional systemic inflammatory response syndrome (SIRS) criteria in a population of emergency department (ED) patients treated in the ED, admitted, and subsequently discharged with a diagnosis of sepsis. Methods: Electronic health records of 200 patients who were treated for suspected sepsis in our ED and ultimately discharged from our hospital with a diagnosis of sepsis were randomly selected for review from a population of adult ED patients (N=1880). Data extracted included the presence of SIRS criteria and the qSOFA score as well as time required to meet said criteria. Results: In this cohort, 94.5% met SIRS criteria while in the ED whereas only 58.3% met qSOFA. The mean time from arrival to SIRS documentation was 47.1 min (95% CI: 36.5-57.8) compared to 84.0 min (95% CI: 62.2-105.8) for qSOFA. The median ED “door” to positive SIRS criteria was 12 min and 29 min for qSOFA. Conclusions: Although qSOFA may be valuable in predicting sepsis-related mortality, it performed poorly as a screening tool for identifying sepsis in the ED. As the time to meet qSOFA criteria was significantly longer than for SIRS, relying on qSOFA alone may delay initiation of evidence-based interventions known to improve sepsis-related outcomes.

**Database:** CINAHL

**The effect of providing clinical performance feedback on compliance with sepsis bundles in the emergency department.**

**Author(s):** Wozniak, Joanne; Lei, Yuxiu; Dargin, James

**Source:** American Journal of Emergency Medicine; Nov 2017; vol. 35 (no. 11); p. 1772-1773

**Database:** CINAHL

**Investigating the Impact of Different Suspicion of Infection Criteria on the Accuracy of Quick Sepsis-Related Organ Failure Assessment, Systemic Inflammatory Response Syndrome, and Early Warning Scores.**

**Author(s):** Churpek, Matthew M.; Snyder, Ashley; Sokol, Sarah; Pettit, Natasha N.; Edelson, Dana P.

**Source:** Critical Care Medicine; Nov 2017; vol. 45 (no. 11); p. 1805-1812

Available at Critical care medicine - from Ovid (LWW High Impact Collection) - 2016
Abstract: Objective: Studies in sepsis are limited by heterogeneity regarding what constitutes suspicion of infection. We sought to compare potential suspicion criteria using antibiotic and culture order combinations in terms of patient characteristics and outcomes. We further sought to determine the impact of differing criteria on the accuracy of sepsis screening tools and early warning scores. Design: Observational cohort study. Setting: Academic center from November 2008 to January 2016. Patients: Hospitalized patients outside the ICU. Interventions: None. Measurements and Main Results: Six criteria were investigated: 1) any culture, 2) blood culture, 3) any culture plus IV antibiotics, 4) blood culture plus IV antibiotics, 5) any culture plus IV antibiotics for at least 4 of 7 days, and 6) blood culture plus IV antibiotics for at least 4 of 7 days. Accuracy of the quick Sepsis-related Organ Failure Assessment score, Sepsis-related Organ Failure Assessment score, systemic inflammatory response syndrome criteria, the National and Modified Early Warning Score, and the electronic Cardiac Arrest Risk Triage score were calculated for predicting ICU transfer or death within 48 hours of meeting suspicion criteria. A total of 53,849 patients met at least one infection criteria. Mortality increased from 3% for group 1 to 9% for group 6 and percentage meeting Angus sepsis criteria increased from 20% to 40%. Across all criteria, score discrimination was lowest for systemic inflammatory response syndrome (median area under the receiver operating characteristic curve, 0.60) and Sepsis-related Organ Failure Assessment score (median area under the receiver operating characteristic curve, 0.62), intermediate for quick Sepsis-related Organ Failure Assessment (median area under the receiver operating characteristic curve, 0.65) and Modified Early Warning Score (median area under the receiver operating characteristic curve 0.67), and highest for National Early Warning Score (median area under the receiver operating characteristic curve 0.71) and electronic Cardiac Arrest Risk Triage (median area under the receiver operating characteristic curve 0.73). Conclusions: The choice of criteria to define a potentially infected population significantly impacts prevalence of mortality but has little impact on accuracy. Systemic inflammatory response syndrome was the least predictive and electronic Cardiac Arrest Risk Triage the most predictive regardless of how infection was defined.

Database: CINAHL

Association of Gender With Outcome and Host Response in Critically Ill Sepsis Patients.

Author(s): van Vught, Lonneke A.; Scicluna, Brendon P.; Wiewel, Maryse A.; Hoogendijk, Arie J.; Klein Klouwenberg, Peter M. C.; Ong, David S. Y.; Cremer, Olaf L.; Horn, Janneke; Franitza, Marek; Toliat, Mohammad R.; Nürnberg, Peter; Bonten, Marc M. J.; Schultz, Marcus J.; van der Poll, Tom

Source: Critical Care Medicine; Nov 2017; vol. 45 (no. 11); p. 1854-1862

Available at Critical care medicine - from Ovid (LWW High Impact Collection) - 2016

Abstract: Objective: To determine the association of gender with the presentation, outcome, and host response in critically ill patients with sepsis. Design and Setting: A prospective observational cohort study in the ICU of two tertiary hospitals between January 2011 and January 2014. Patients: All consecutive critically ill patients admitted with sepsis, involving 1,815 admissions (1,533 patients). Interventions: The host response was evaluated on ICU admission by measuring 19 plasma biomarkers reflecting organ systems implicated in sepsis pathogenesis (1,205 admissions) and by applying genome-wide blood gene expression profiling (582 admissions). Measurements and Main Results: Sepsis patients admitted to the ICU were more frequently males (61.0%; p < 0.0001 vs females). Baseline characteristics were not different between genders. Urosepsis was more common in females; endocarditis and mediastinitis in men. Disease severity was similar throughout ICU stay. Mortality was similar up to 1 year after ICU admission, and gender was not associated with 90-day mortality in multivariate analyses in a variety of subgroups. Although plasma proteome analyses (including systemic inflammatory and cytokine responses, and activation of coagulation) were largely similar between genders, females showed enhanced endothelial cell activation; this difference was virtually absent in patients more than 55 years old. More than 80% of the leukocyte blood gene expression response was similar in male and female patients. Conclusions: The host response and outcome in male and female sepsis patients requiring ICU admission are largely similar.

Database: CINAHL
Quantifying the Effects of Prior Acetyl-Salicylic Acid on Sepsis-Related Deaths: An Individual Patient Data Meta-Analysis Using Propensity Matching.

**Author(s):** Trauer, James; Muhi, Stephen; McByrde, Emma S.; Al Harbi, Shmeylan A.; Arabi, Yaseen M.; Boyle, Andrew J.; Cartin-Ceba, Rodrigo; Wei Chen; Yung-Tai Chen; Falcone, Marco; Gajic, Ognjen; Godsell, Jack; Ng Gong, Michelle; Kor, Daryl; Lösche, Wolfgang; McAuley, Daniel F.; O'Neal Jr, Hollis R.; Osthoff, Michael; Otto, Gordon P.; Sossdorf, Maik

**Source:** Critical Care Medicine; Nov 2017; vol. 45 (no. 11); p. 1871-1879

**Abstract:** Objective: The primary objective was to conduct a meta-analysis on published observational cohort data describing the association between acetyl-salicylic acid (aspirin) use prior to the onset of sepsis and mortality in hospitalized patients. Study Selection: Studies that reported mortality in patients on aspirin with sepsis with a comparison group of patients with sepsis not on prior aspirin therapy were included. Data Sources: Fifteen studies described hospital-based cohorts (n = 17,065), whereas one was a large insurance-based database (n = 683,421). Individual-level patient data were incorporated from all selected studies. Data Extraction: Propensity analyses with 1:1 propensity score matching at the study level were performed, using the most consistently available covariates judged to be associated with aspirin. Meta-analyses were performed to estimate the pooled average treatment effect of aspirin on sepsis-related mortality. Data Synthesis: Use of aspirin was associated with a 7% (95% CI, 2-12%; p = 0.005) reduction in the risk of death as shown by meta-analysis with considerable statistical heterogeneity (I² = 61.6%). Conclusions: These results are consistent with effects ranging from a 2% to 12% reduction in mortality risk in patients taking aspirin prior to sepsis onset. This association anticipates results of definitive studies of the use of low-dose aspirin as a strategy for reduction of deaths in patients with sepsis.

**Database:** CINAHL

Machine Learning and Sepsis: On the Road to Revolution.

**Author(s):** Liu, Vincent X.; Walkey, Allan J.

**Source:** Critical Care Medicine; Nov 2017; vol. 45 (no. 11); p. 1946-1947

**Abstract:** The article discusses some machine learning approaches used in developing and validating the electronic Cardiac Arrest Risk Triage (eCART) score among hospitalized ward patients with sepsis. It examines the performance of eCART and determined that it remained consistent even as the inclusion cohort criteria varied from minimal evidence of suspected infection. It mentions that sepsis is one of the most common cause of hospitalization in the U.S.

**Database:** CINAHL

Sepsis in the Critically Ill—Does Gender Matter?

**Author(s):** Jawa, Randeep S.; Kew, Richard R.

**Source:** Critical Care Medicine; Nov 2017; vol. 45 (no. 11); p. 1957-1959

**Database:** CINAHL

Aspirin for Sepsis Prophylaxis: An Ounce of Prevention?

**Author(s):** Casey, Jonathan D.; Semler, Matthew W.; Bastarache, Julie A.

**Source:** Critical Care Medicine; Nov 2017; vol. 45 (no. 11); p. 1959-1960

**Database:** CINAHL
Nurses’ Early Recognition of Neonatal Sepsis.

Author(s): Boettiger, Michele; Tyer-Viola, Lynda; Hagan, Joseph

Source: JOGNN: Journal of Obstetric, Gynecologic & Neonatal Nursing; Nov 2017; vol. 46 (no. 6); p. 834-845

Abstract:Objective To determine nurses’ perceptions of the most common physiologic and behavioral indicators of neonatal sepsis. Design Descriptive correlational study. Setting A women’s and children’s hospital in an academic medical center in the southwestern United States. Participants Nurses (N = 181) who cared for neonates in the mother–infant and NICU settings. Methods Participants completed an e-mail survey developed from the literature to ascertain their perceptions of which physiologic and behavioral indicators were most often associated with neonatal sepsis. Descriptive and inferential statistics were used to analyze the data. Results Participants identified six signs and symptoms as indicators most often associated with sepsis: two were physiologic and four were behavioral. Recognition of these indicators was not related to level of nursing education but was associated with working in the NICU. Seventy-three percent of participants reported that they suspected that newborns were septic before evaluation and diagnosis of septicemia. Conclusion Nurses can identify the physiologic and behavioral indicators related to neonatal sepsis. Early recognition, expressed as their intuitive knowing, should be considered a valuable clinical tool. Understanding that different practice settings influence identification of signs and symptoms is important. Integration of this knowledge into formal care surveillance could potentially lower the threshold for early evaluation and treatment and thereby improve outcomes.

Database: CINAHL

Identification of Extremely Premature Infants at Low Risk for Early-Onset Sepsis.

Author(s): Puopolo, Karen M.; Mukhopadhyay, Sagori; Hansen, Nellie L.; Cotten, C. Michael; Stoll, Barbara J.; Sanchez, Pablo J.; Bell, Edward F.; Das, Abhik; Hensman, Angelita M.; Van Meurs, Krisa P.; Wyckoff, Myra H.

Source: Pediatrics; Nov 2017; vol. 140 (no. 5); p. 1-12

Abstract:BACKGROUND: Premature infants are at high risk of early-onset sepsis (EOS) relative to term infants, and most are administered empirical antibiotics after birth. We aimed to determine if factors evident at birth could be used to identify premature infants at lower risk of EOS. METHODS: Study infants were born at 22 to 28 weeks’ gestation in Neonatal Research Network centers from 2006 to 2014. EOS was defined by isolation of pathogenic species from blood or cerebrospinal fluid culture at ≤72 hours age. Infants were hypothesized as “low risk” for EOS when delivered via cesarean delivery, with membrane rupture at delivery, and absence of clinical chorioamnionitis. Frequency of prolonged antibiotics (≥5 days) was compared between low-risk infants and all others. Risks of mortality, EOS, and other morbidities were assessed by using regression models adjusted for center, race, antenatal steroid use, multiple birth, sex, gestation, and birth weight. RESULTS: Of 15 433 infants, 5759 (37%) met low-risk criteria. EOS incidence among infants surviving >12 hours was 29 out of 5640 (0.5%) in the low-risk group versus 209 out of 8422 (2.5%) in the comparison group (adjusted relative risk = 0.24 [95% confidence interval, 0.16–0.36]). Low-risk infants also had significantly lower combined risk of EOS or death ≤12 hours. Prolonged antibiotics were administered to 34% of low-risk infants versus 47% of comparison infants without EOS. CONCLUSIONS: Delivery characteristics of extremely preterm infants can be used to identify those with significantly lower incidence of EOS. Recognition of differential risk may help guide decisions to limit early antibiotic use among approximately one-third of these infants.

Database: CINAHL

Timing to antibiotic therapy in septic oncologic patients presenting without hypotension.

Author(s): Morneau, Kathleen; Chisholm, Gary B.; Tverdek, Frank; Bruno, Jeffrey; Toale, Katy; Toale, Katy M

Source: Supportive Care in Cancer; Nov 2017; vol. 25 (no. 11); p. 3357-3363
Abstract: Purpose: Sepsis accounts for only 2% of the hospitalizations worldwide but more than 17% of total in-hospital mortality. Inappropriate antimicrobial selection and delays in appropriate therapy have been associated with reduced survival in severe sepsis and septic shock. No studies to date have exclusively targeted septic oncologic patients without hypotension. Methods: This study was a retrospective chart review of 100 adult cancer patients presenting to the emergency department with sepsis without hypotension. We investigated the effect of time to appropriate antibiotics on in-hospital mortality and hospital length of stay. It was hypothesized that increased time to antibiotic administration would worsen patient outcomes including in-hospital mortality and length of stay. Results: Each 1-h delay in administration of appropriate antibiotic therapy increased the odds of in-hospital mortality by 16% (adjusted OR 1.16, 95% CI 1.04-1.34, p = 0.04). Time to appropriate antibiotics had no effect on hospital length of stay. Conclusions: Time to appropriate antibiotics and in-hospital mortality were associated in this population of adult oncologic patients with sepsis without hypotension. Clinicians in the emergency department should strive to ensure the timely administration of a complete and appropriate empiric antibiotic regimen in septic patients with active cancer even in the absence of hypotension.

Database: CINAHL

Counting Sepsis, an Imprecise but Improving Science.

Author(s): Rudd, Kristina E.; Delaney, Anthony; Finfer, Simon

Source: JAMA: Journal of the American Medical Association; Oct 2017; vol. 318 (no. 13); p. 1228-1229

Abstract: The article discusses research on the incidence of sepsis. Topics include the use of codes from the publication "International Classification of Diseases" ("ICD"), an issue article on U.S. sepsis incidence and mortality, and the use of data from electronic health records (EHR) to estimate the incidence of sepsis.

Database: CINAHL

Effect of an Early Resuscitation Protocol on In-hospital Mortality Among Adults With Sepsis and Hypotension: A Randomized Clinical Trial.

Author(s): Andrews, Ben; Semler, Matthew W.; Muchemwa, Levy; Kelly, Paul; Lakhi, Shabir; Heimburger, Douglas C.; Mabula, Chileshe; Bwalya, Mwango; Bernard, Gordon R.

Source: JAMA: Journal of the American Medical Association; Oct 2017; vol. 318 (no. 13); p. 1233-1240

Abstract: Importance: The effect of an early resuscitation protocol on sepsis outcomes in developing countries remains unknown. Objective: To determine whether an early resuscitation protocol with administration of intravenous fluids, vasopressors, and blood transfusion decreases mortality among Zambian adults with sepsis and hypotension compared with usual care. Design, Setting, and Participants: Randomized clinical trial of 212 adults with sepsis (suspected infection plus ≥2 systemic inflammatory response syndrome criteria) and hypotension (systolic blood pressure ≤90 mm Hg or mean arterial pressure ≤65 mm Hg) presenting to the emergency department at a 1500-bed referral hospital in Zambia between October 22, 2012, and November 11, 2013. Data collection concluded December 9, 2013. Interventions: Patients were randomized 1:1 to either (1) an early resuscitation protocol for sepsis (n = 107) that included intravenous fluid bolus administration with monitoring of jugular venous pressure, respiratory rate, and arterial oxygen saturation and treatment with vasopressors targeting mean arterial pressure (≥65 mm Hg) and blood transfusion (for patients with a hemoglobin level <7 g/dL) or (2) usual care (n = 105) in which treating clinicians determined hemodynamic management. Main Outcomes and Measures: The primary outcome was in-hospital mortality and the secondary outcomes included the volume of intravenous fluid received and receipt of vasopressors. Results: Among 212 patients randomized to receive either the sepsis protocol or usual care, 3 were ineligible and the remaining 209 completed the study and were included in the analysis (mean [SD] age, 36.7 [12.4] years; 117 men [56.0%]; 187 [89.5%] positive for the human immunodeficiency virus). The primary outcome of in-hospital mortality occurred in 51 of 106 patients (48.1%) in the sepsis protocol group compared with 34 of 103 patients (33.0%) in the usual care.
group (between-group difference, 15.1% [95% CI, 2.0%-28.3%]; relative risk, 1.46 [95% CI, 1.04-2.05]; P = .03). In the 6 hours after presentation to the emergency department, patients in the sepsis protocol group received a median of 3.5 L (interquartile range, 2.7-4.0 L) of intravenous fluid compared with 2.0 L (interquartile range, 1.0-2.5 L) in the usual care group (mean difference, 1.2 L [95% CI, 1.0-1.5 L]; P < .001). Fifteen patients (14.2%) in the sepsis protocol group and 2 patients (1.9%) in the usual care group received vasopressors (between-group difference, 12.3% [95% CI, 5.1%-19.4%]; P < .001). Conclusions and Relevance: Among adults with sepsis and hypotension, most of whom were positive for HIV, in a resource-limited setting, a protocol for early resuscitation with administration of intravenous fluids and vasopressors increased in-hospital mortality compared with usual care. Further studies are needed to understand the effects of administration of intravenous fluid boluses and vasopressors in patients with sepsis across different low- and middle-income clinical settings and patient populations. Trial Registration: clinicaltrials.gov Identifier: NCT01663701.

**Database:** CINAHL

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**The Physiology of Early Goal-Directed Therapy for Sepsis.**

**Author(s):** Lief, Lindsay; Arbo, John; Berlin, David A

**Source:** Journal of intensive care medicine; Dec 2017; vol. 32 (no. 10); p. 567-573

**Abstract:** In 2001, Rivers and colleagues published a randomized controlled trial of early goal-directed therapy (EGDT) for the treatment of sepsis. More than a decade later, it remains a landmark achievement. The study proved the benefits of early aggressive treatment of sepsis. However, many questions remain about specific aspects of the complex EGDT algorithm. Recently, 3 large trials attempted to replicate these results. None of the studies demonstrated a benefit of an EGDT protocol for sepsis. This review explores the physiologic basis of goal-directed therapy, including the hemodynamic targets and the therapeutic interventions. An understanding of the physiologic basis of EGDT helps reconcile the results of the clinical trials.

**Database:** Medline

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**Cerebral hemodynamics in sepsis assessed by transcranial Doppler: a systematic review and meta-analysis.**

**Author(s):** de Azevedo, Daniel Silva; Salinet, Angela Salomao Macedo; de Lima Oliveira, Marcelo; Teixeira, Manoel Jacobsen; Bor-Seng-Shu, Edson; de Carvalho Nogueira, Ricardo

**Source:** Journal of clinical monitoring and computing; Dec 2017; vol. 31 (no. 6); p. 1123-1132

**Available at Journal of Clinical Monitoring - from EBSCO (CINAHL Complete)**

**Available at Journal of Clinical Monitoring - from ProQuest (Hospital Premium Collection) - NHS Version**

**Abstract:** Cerebral microcirculation is gradually compromised during sepsis, with significant reductions in the function of capillaries and blood perfusion in small vessels. Transcranial Doppler ultrasound (TCD) has been used to assess cerebral circulation in a typical clinical setting. This study was to systematically review TCD studies, assess their methodological quality, and identify trends that can be associated with the temporal evolution of sepsis and its clinical outcome. A meta-analysis of systematic reviews was conducted according to the PRISMA statement. Articles were searched from 1982 until the conclusion of this review in December 2015. Twelve prospective and observational studies were selected. Evaluations of cerebral blood flow, cerebral autoregulation, and carbon dioxide (CO2) vasoreactivity were summarized. A temporal pattern of the evolution of the illness was found. In early sepsis, the median blood flow velocity (Vm) and pulsatility index (PI) increased, and the cerebral autoregulation (CA) remained unchanged. In contrast, Vm normalization, PI reduction and CA impairment were found in later sepsis (patients with severe sepsis or septic shock). Cerebral haemodynamic is impaired in sepsis. Modifications in cerebral blood flow may be consequence to the endothelial dysfunction of the microvasculature induced by the release of inflammatory mediators. A better understanding of cerebral hemodynamics may improve the clinical management of patients with sepsis and, consequently, improve clinical outcomes.

**Database:** Medline
**Sepsis prediction in critically ill patients by platelet activation markers on ICU admission: a prospective pilot study.**

**Author(s):** Layios, Nathalie; Delierneux, Céline; Hego, Alexandre; Huart, Justine; Gosset, Christian; Lecut, Christelle; Maes, Nathalie; Geurts, Pierre; Joly, Arnaud; Lancellotti, Patrizio; Albert, Adelin; Damas, Pierre; Gothot, André; Oury, Cécile

**Source:** Intensive care medicine experimental; Dec 2017; vol. 5 (no. 1); p. 32

Abstract: BACKGROUND Platelets have been involved in both immune surveillance and host defense against severe infection. To date, whether platelet phenotype or other hemostasis components could be associated with predisposition to sepsis in critical illness remains unknown. The aim of this work was to identify platelet markers that could predict sepsis occurrence in critically ill injured patients.

**METHODS** This single-center, prospective, observational, 7-month study was based on a cohort of 99 non-infected adult patients admitted to ICUs for elective cardiac surgery, trauma, acute brain injury, and post-operative prolonged ventilation and followed up during ICU stay. Clinical characteristics and severity score (SOFA) were recorded on admission. Platelet activation markers, including fibrinogen binding to platelets, platelet membrane P-selectin expression, plasma soluble CD40L, and platelet-leukocytes aggregates were assayed by flow cytometry at admission and 48 h later, and then at the time of sepsis diagnosis (Sepsis-3 criteria) and 7 days later for sepsis patients. Hospitalization data and outcomes were also recorded.

METHODS OF the 99 patients, 19 developed sepsis after a median time of 5 days. These patients had a higher SOFA score at admission; levels of fibrinogen binding to platelets (platelet-Fg) and of D-dimers were also significantly increased compared to the other patients. Levels 48 h after ICU admission no longer differed between the two patient groups. Platelet-Fg % was an independent predictor of sepsis (P = 0.0031). By ROC curve analysis, cutoff point for Platelet-Fg (AUC = 0.75) was 50%. In patients with a SOFA cutoff of 8, the risk of sepsis reached 87% when Platelet-Fg levels were above 50%. Patients with sepsis had longer ICU and hospital stays and higher death rate.

CONCLUSIONS Platelet-bound fibrinogen levels assayed by flow cytometry within 24 h of ICU admission help identifying critically ill patients at risk of developing sepsis.

**Database:** Medline

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**Sepsis in Older Adults.**

**Author(s):** Rowe, Theresa A; McKoy, June M

**Source:** Infectious disease clinics of North America; Dec 2017; vol. 31 (no. 4); p. 731-742

Abstract: Sepsis disproportionally affects older adults with more than 60% of sepsis diagnoses attributed to adults aged 65 years and older. Identifying, diagnosing, and treating sepsis in older individuals remain a challenge for clinicians, and few studies focus specifically on older adults with multiple medical comorbidities. Principles guiding management of sepsis for older adults are generally the same as in younger adults; however, unique considerations particularly pertinent to the care older adults include antimicrobial selection and dosing, delirium management, and goals of care discussions. Other factors, such as medical comorbidities, cognitive impairment, and functional status, impact outcomes more than age alone.

**Database:** Medline

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**Intermediate-term and long-term mortality among acute medical patients hospitalized with community-acquired sepsis: a population-based study.**

**Author(s):** Henriksen, Daniel P; Pottegård, Anton; Laursen, Christian B; Jensen, Thøger G; Hallas, Jesper; Pedersen, Court; Lassen, Annmarie T

**Source:** European journal of emergency medicine : official journal of the European Society for Emergency Medicine; Dec 2017; vol. 24 (no. 6); p. 404-410
Abstract: OBJECTIVE Admission with severe sepsis is associated with an increased short-term mortality, but it is unestablished whether sepsis severity has an impact on intermediate-term and long-term mortality following admission to an acute medical admission unit. PATIENTS AND METHODS This was a population-based study of all adults admitted to an acute medical admission unit, Odense University Hospital, Denmark, from September 2010 to August 2011, identified by symptoms and clinical findings. We categorized the mortality periods into intermediate-term (31-180 days) and long-term (181-365, 366-730, and 731-1096 days). Mortality hazard ratios (HRs), comparing patients admitted with sepsis with those of a well-defined background population, were estimated using multivariable Cox regression. HRs were presented with 95% confidence intervals. RESULTS In total, 621 (36.3%) presented with sepsis, 1071 (62.5%) presented with severe sepsis, and 21 (1.2%) presented with septic shock. Thirty-day all-cause mortality for patients with sepsis, severe sepsis, and septic shock was 6.1, 18.8, and 38.1%, respectively. The adjusted HR among patients with sepsis of any severity within the time periods 31-180, 181-365, 366-720, and 721-1096 days was 7.1 (6.0-8.5), 2.8 (2.3-3.5), 2.1 (1.8-2.6), and 2.2 (1.7-2.9), respectively. Long-term mortality was unrelated to sepsis severity [721-1096 days: sepsis HR: 2.2 (1.5-3.2), severe sepsis HR: 2.1 (1.5-3.0)]. CONCLUSION Patients admitted with community-acquired sepsis showed high intermediate-term mortality, increasing with sepsis severity. Long-term mortality was increased two-fold compared with sepsis-free individuals, but might be explained by unmeasured confounding. Further, long-term mortality was unrelated to sepsis severity.

Database: Medline

Assessment of sepsis-induced immunosuppression at ICU discharge and 6 months after ICU discharge.

Author(s): Zorio, Violette; Venet, Fabienne; Delwarde, Benjamin; Floccard, Bernard; Marcotte, Guillaume; Textoris, Julien; Monneret, Guillaume; Rimmelé, Thomas

Source: Annals of intensive care; Dec 2017; vol. 7 (no. 1); p. 80

Available at Annals of Intensive Care - from Europe PubMed Central - Open Access

Abstract: BACKGROUND Increase in mortality and in recurrent infections in the year following ICU discharge continues in survivors of septic shock, even after total clinical recovery from the initial septic event and its complications. This supports the hypothesis that sepsis could induce persistent long-term immune dysfunctions. To date, there is almost no data on ICU discharge and long-term evolution of sepsis-induced immunosuppression in septic shock survivors. The aim of this study was to assess the persistence of sepsis-induced immunosuppression by measuring expression of human leukocyte antigen DR on monocytes (mHLA-DR), CD4+ T cells, and regulatory T cells (Treg) at ICU discharge and 6 months after ICU discharge in patients admitted to the ICU for septic shock. METHODS In this prospective observational study, septic shock survivors with no preexisting immune suppression or treatment interfering with the immune system were included. mHLA-DR, CD4+ T cells, and Treg expression were assessed on day 1-2, 3-4, and 6-8 after ICU admission, at ICU discharge, and 6 months after ICU discharge. RESULTS A total of 40 patients were enrolled during their ICU stay: 21 males (52.5%) and 19 females, median age 68 years (IQR 58-77), median SOFA score on day 1-2 was 8 (IQR 7-9), and median ICU length of stay was 11 days (IQR 7-24). Among these 40 patients, 33 were studied at ICU discharge and 15 were disposed for blood sampling 6 months after ICU discharge. On day 1-2, mHLA-DR expression was abnormally low for all patients [median 4212 (IQR 2640-6047) AB/C] and remained abnormally low at ICU discharge for 75% of them [median 10,281 (IQR 7719-13,035) AB/C]. On day 3-4, 46% of patients presented CD4+ lymphopenia [median 515 (IQR 343-724) mm-3] versus 34% at ICU discharge [median 642 (IQR 459-846) mm-3]. Among patients with a 6-month blood sample, normal values of mHLA-DR were found for all patients [median 32,616 (IQR 24,918-38,738) AB/C] except for one and only another one presented CD4+ lymphopenia. CONCLUSION While immune alterations persist at ICU discharge, there is, at cellular level, no persistent immune alterations among septic shock survivors analyzed 6 months after ICU discharge.

Database: Medline
The impact of a multifaceted intervention including sepsis electronic alert system and sepsis response team on the outcomes of patients with sepsis and septic shock.

**Author(s):** Arabi, Yaseen M; Al-Dorzi, Hasan M; Alamry, Ahmed; Hijazi, Ra‘ed; Alsolamy, Sami; Al Salamah, Majid; Tamim, Hani M; Al-Qahtani, Saad; Al-Dawood, Abdulaziz; Marini, Abdellatif M; Al Ehnidi, Fatimah H; Mundekkadan, Shihab; Matroud, Amal; Mohamed, Mohamed S; Taher, Saadi

**Source:** Annals of intensive care; Dec 2017; vol. 7 (no. 1); p. 57

Available at [Annals of Intensive Care](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5691677/) - from Europe PubMed Central - Open Access

**Abstract:**BACKGROUND Compliance with the clinical practice guidelines of sepsis management has been low. The objective of our study was to describe the results of implementing a multifaceted intervention including an electronic alert (e-alert) with a sepsis response team (SRT) on the outcome of patients with sepsis and septic shock presenting to the emergency department.

**METHODS** This was a pre-post two-phased implementation study that consisted of a pre-intervention phase (January 01, 2011-September 24, 2012), intervention phase I (multifaceted intervention including e-alert, from September 25, 2012-March 03, 2013) and intervention phase II when SRT was added (March 04, 2013-October 30, 2013) in a 900-bed tertiary-care academic hospital. We recorded baseline characteristics and processes of care in adult patients presenting with sepsis or septic shock. The primary outcome measures were hospital mortality. Secondary outcomes were the need for mechanical ventilation and length of stay in the intensive unit and in the hospital.

**RESULTS** After implementing the multifaceted intervention including e-alert and SRT, cases were identified with less severe clinical and laboratory abnormalities and the processes of care improved. When adjusted to propensity score, the interventions were associated with reduction in hospital mortality [for intervention phase II compared to pre-intervention: adjusted odds ratio (aOR) 0.71, 95% CI 0.58-0.85, \( p = 0.003 \)], reduction in the need for mechanical ventilation (aOR 0.45, 95% CI 0.37-0.55, \( p < 0.0001 \) and reduction in ICU LOS and hospital LOS for all patients as well as ICU LOS for survivors. CONCLUSIONS Implementing a multifaceted intervention including sepsis e-alert with SRT was associated with earlier identification of sepsis, increase in compliance with sepsis resuscitation bundle and reduction in the need for mechanical ventilation and reduction in hospital mortality and LOS.

**Database:** Medline

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**Impact of transfusion on patients with sepsis admitted in intensive care unit: a systematic review and meta-analysis.**

**Author(s):** Dupuis, Claire; Sonneville, Romain; Adrie, Christophe; Gros, Antoine; Darmon, Michael; Bouadma, Lila; Timsit, Jean-François

**Source:** Annals of intensive care; Dec 2017; vol. 7 (no. 1); p. 5

Available at [Annals of Intensive Care](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5431049/) - from Europe PubMed Central - Open Access

**Abstract:** Red blood cell transfusion (RBCT) threshold in patients with sepsis remains a matter of controversy. A threshold of 7 g/dL for stabilized patients with sepsis is commonly proposed, although debated. The aim of the study was to compare the benefit and harm of restrictive versus liberal RBCT strategies in order to guide physicians on RBCT strategies in patients with severe sepsis or septic shock. Four outcomes were assessed: death, nosocomial infection (NI), acute lung injury (ALI) and acute kidney injury (AKI). Studies assessing RBCT strategies or RBCT impact on outcome and including intensive care unit (ICU) patients with sepsis were assessed. Two systematic reviews were achieved: first for the randomized controlled studies (RCTs) and second for the observational studies. MEDLINE, EMBASE, Web of Science Core Collection, Cochrane Central Register of Controlled Trials, Cochrane Database of Systematic Reviews and Clinical Trials.gov were analyzed up to March 01, 2015. Der Simonian and Laird random-effects models were used to report pooled odds ratios (ORs). Subgroup analyses and meta-regressions were performed to explore studies heterogeneity. One RCT was finally included. The restrictive RBCT strategy was not associated with harm or benefit compared to liberal strategy. Twelve cohort studies were included, of which nine focused on mortality rate. RBCT was not associated with increased mortality rate (overall pooled OR was 1.10 [0.75, 1.60]; \( I^2 = 57\%, \ p = 0.03 \)), but was associated with the occurrence of NI (2 studies: pooled OR 1.25 [1.04-1.50]; \( I^2 = 0\%, \ p = 0.97 \)), the occurrence of ALI (1 study: OR 2.75 [1.22-6.37]; \( p = 0.016 \)) and the occurrence of AKI (1 study: OR 5.22 [2.1-15.8]; \( p = 0.001 \)). Because there was only one RCT, the
final meta-analyses were only based on the cohort studies. As a result, the safety of a RBCT restrictive strategy was confirmed, although only one study specifically focused on ICU patients with sepsis. Then, RBCT was not associated with increased mortality rate, but was associated with increased in occurrence of NI, ALI and AKI. Nevertheless, the data on RBCT in patients with sepsis are sparse and the high heterogeneity between studies prevents from drawing any definitive conclusions.

Database: Medline

Fluid resuscitation in human sepsis: Time to rewrite history?
Author(s): Byrne, Liam; Van Haren, Frank
Source: Annals of intensive care; Dec 2017; vol. 7 (no. 1); p. 4
Available at Annals of Intensive Care - from Europe PubMed Central - Open Access
Abstract: Fluid resuscitation continues to be recommended as the first-line resuscitative therapy for all patients with severe sepsis and septic shock. The current acceptance of the therapy is based in part on long history and familiarity with its use in the resuscitation of other forms of shock, as well as on an incomplete and incorrect understanding of the pathophysiology of sepsis. Recently, the safety of intravenous fluids in patients with sepsis has been called into question with both prospective and observational data suggesting improved outcomes with less fluid or no fluid. The current evidence for the continued use of fluid resuscitation for sepsis remains contentious with no prospective evidence demonstrating benefit to fluid resuscitation as a therapy in isolation. This article reviews the historical and physiological rationale for the introduction of fluid resuscitation as treatment for sepsis and highlights a number of significant concerns based on current experimental and clinical evidence. The research agenda should focus on the development of hyperdynamic animal sepsis models which more closely mimic human sepsis and on experimental and clinical studies designed to evaluate minimal or no fluid strategies in the resuscitation phase of sepsis.

Database: Medline

Efficacy of zinc supplementation for neonatal sepsis: a systematic review and meta-analysis.
Author(s): Tang, Zhijun; Wei, Zonghui; Wen, Fei; Wu, Yongdei
Source: The journal of maternal-fetal & neonatal medicine : the official journal of the European Association of Perinatal Medicine, the Federation of Asia and Oceania Perinatal Societies, the International Society of Perinatal Obstetricians; Nov 2017 ; p. 1-131
Abstract: BACKGROUND Zinc supplementation has some potential in treating neonatal sepsis. We conduct a systematic review and meta-analysis to explore the efficacy of zinc supplementation for neonatal sepsis. METHODS PubMed, Embase, Web of science, EBSCO, and Cochrane Library databases are systematically searched. Randomized controlled trials (RCTs) assessing the efficacy of zinc supplementation in neonatal sepsis are included. Two investigators independently search articles, extract the data, and assessed the quality of included studies. Meta-analysis is performed using the random-effect model. RESULTS Four RCTs involving 986 patients are included in the meta-analysis. Overall, compared with control intervention in neonatal sepsis, zinc supplementation is able to significantly reduce mortality rate (Risk ratio (RR) = 0.48; 95% confidence intervals (CIs) = 0.25-0.94; p = 0.03) and improve serum zinc (Mean difference (MD) = 81.97; 95% CI = 34.57-129.37; p = 0.0007), but has no remarkable influence on hospital stay (MD = -4.51; 95% CI = -15.08-6.05; p = 0.40) and the number of expired patients (RR = 0.63; 95% CI = 0.24-1.65; p = 0.35). CONCLUSIONS Zinc supplementation may significantly reduce mortality rate and improve serum zinc in neonatal sepsis, but has no substantial influence on hospital stay and the number of expired patients.

Database: Medline

Predicting Mortality of Patients With Sepsis: A Comparison of APACHE II and APACHE III Scoring Systems.
**Author(s):** Sadaka, Farid; EthmaneAbouElMaali, Cheikh; Cytron, Margaret A; Fowler, Kimberly; Javaux, Victoria M; O'Brien, Jacklyn

**Source:** Journal of clinical medicine research; Nov 2017; vol. 9 (no. 11); p. 907-910

Available at [Journal of Clinical Medicine Research](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5597859/) - from Europe PubMed Central - Open Access

**Abstract:**

**BACKGROUND**
Acute Physiology, Age and Chronic Health Evaluation (APACHE) II and III scores were developed in 1985 and 1991, respectively, and are used mainly for critically ill patients of all disease categories admitted to the intensive care unit (ICU). They differ in how chronic health status is assessed, in the number of physiologic variables included (12 vs. 17), and in the total score. These two scoring systems have not been compared in predicting hospital mortality in patients with sepsis.

**METHODS**
We retrospectively identified all septic patients admitted to our 54-bed medical-surgical ICU between June 2009 and February 2014 using the APACHE outcomes database. We calculated correlation coefficients for APACHE II and APACHE III scores in predicting hospital mortality. Receiver operating characteristic (ROC) curves were also used to assess the mortality predictions.

**RESULTS**
We identified a total of 2,054 septic patients. Average APACHE II score was 19 ± 7, and average APACHE III score was 68 ± 28. ICU mortality was 11.8% and hospital mortality was 18.3%. Both APACHE II (r = 0.41) and APACHE III scores (r = 0.44) had good correlations with hospital mortality. There was no statistically significant difference between the two correlations (P = 0.1). ROC area under the curve (AUC) was 0.80 (95% confidence interval (CI): 0.78 - 0.82) for APACHE II, and 0.83 (95% CI: 0.81 - 0.85) for APACHE III, suggesting that both scores have very good discriminative powers for predicting hospital mortality.

**CONCLUSION**
This study shows that both APACHE II and APACHE III scores in septic patients were very strong predictors of hospital mortality. APACHE II was as good as APACHE III in predicting hospital mortality in septic patients.

**Database:** Medline

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**Automated Detection of Sepsis Using Electronic Medical Record Data: A Systematic Review.**

**Author(s):** Despins, Laurel A

**Source:** Journal for healthcare quality : official publication of the National Association for Healthcare Quality; ; vol. 39 (no. 6); p. 322-333

**Abstract:**

Severe sepsis and septic shock are global issues with high mortality rates. Early recognition and intervention are essential to optimize patient outcomes. Automated detection using electronic medical record (EMR) data can assist this process. This review describes automated sepsis detection using EMR data. PubMed retrieved publications between January 1, 2005 and January 31, 2015. Thirteen studies met study criteria: described an automated detection approach with the potential to detect sepsis or sepsis-related deterioration in real or near-real time; focused on emergency department and hospitalized neonatal, pediatric, or adult patients; and provided performance measures or results indicating the impact of automated sepsis detection. Detection algorithms incorporated systemic inflammatory response and organ dysfunction criteria. Systems in nine studies generated study or care team alerts. Care team alerts did not consistently lead to earlier interventions. Earlier interventions did not consistently translate to improved patient outcomes. Performance measures were inconsistent. Automated sepsis detection is potentially a means to enable early sepsis-related therapy but current performance variability highlights the need for further research.

**Database:** Medline
PATIENT SAFETY

Priming Patient Safety Through Nursing Handoff Communication: A Simulation Pilot Study

Author(s): Groves, Patricia S; Bunch, Jacinda L; Cram, Ellen; Farag, Amany; Manges, Kirstin; Perkhounkova, Yelena; Scott-Cawiezell, Jill

Source: Western Journal of Nursing Research; Nov 2017; vol. 39 (no. 11); p. 1394

Abstract: Understanding how safety culture mechanisms affect nursing safety-oriented behavior and thus patient outcomes is critical to developing hospital safety programs. Safety priming refers to communicating safety values intended to activate patient safety goals. Safety priming through nursing handoff communication was tested as a means by which cultural safety values may affect nursing practice. The mixed-methods pilot study setting was an academic medical center's high-fidelity simulation lab. Twenty nurses were randomized into intervention and control groups. The intervention group received a safety priming intervention; all participants were observed for completing appropriate actions in response to patient safety risks embedded in a scenario. Stimulated recall interviews were conducted following simulation completion. Nurses receiving the safety priming intervention performed slightly but non-significantly more safety actions than nurses who did not (60.5% vs. 57.9% of 43 actions). Implications for both research and practice are discussed for interventions targeting routine versus safety goal-directed nursing actions.

Database: BNI

A safety culture training program enhanced the perceptions of patient safety culture of nurse managers

Author(s): Jian-fei Xie; Si-qing Ding; Zhu-qing, Zhong; Sai-nan Zeng; Chun-xiang, Qin; Qi-feng, Yi; Li-na, Gong; Jian-da Zhou

Source: Nurse Education in Practice; Nov 2017; vol. 27 ; p. 128

Abstract: Positive perceptions of patient safety culture are associated with lower rates of adverse events, but they have not been widely established in many health care organizations. The purpose of this study is to examine the impacts of a safety culture training program (SCTP) on enhancing the perceptions of patient safety in nurse managers. This was a quasi-experimental design. 83 nurse managers were recruited from five randomly selected 2nd level hospitals. Sixty-seven nurse managers received training under the educational SCTP. The Hospital Survey on Patient Safety Culture (HSPSC) and Chinese Safety Attitudes Questionnaire (CSAQ) were administered just before and six months after the educational program. The data of hospital-acquired pressure ulcers, patient falls, and unplanned extubations were collected. The total positive scores of HSPSC were significantly improved and four dimensions of CSAQ significantly increased six months after SCTP. The rate of patient falls and rate of hospital-acquired pressure ulcers decreased significantly six months post SCTP. In conclusion, nurse manager participation in a SCTP can enhance the perceptions of patient safety and reduce the rates of adverse events. More rigorous trials with larger numbers of participants and a control group are needed to strengthen the conclusions.

Database: BNI

Conservation of resources theory in nurse burnout and patient safety

Author(s): Prapanjaroensson, Aoyjai; Patrician, Patricia A; Vance, David E

Source: Journal of Advanced Nursing; Nov 2017; vol. 73 (no. 11); p. 2558

Abstract: Aims To examine how the Conservation of Resources theory explains burnout in the nursing profession. Background Burnout, which is an accumulation of work-related mental stress in people-oriented occupations, has been an issue of concern for decades for healthcare workers, especially nurses. Yet, few studies have examined a unified theory that explains the aetiology, progression and consequences of nurse burnout. Design This discussion article integrates current knowledge on nurse burnout using Conservation of Resources theory, which focuses on four resources (i.e., objects, conditions, personal characteristics and energy). Data sources The databases that were used in this study included CINAHL, PubMed and PsycINFO. All reviewed
articles were published between January 2006 - June 2016. Findings The Conservation of Resources theory explains that burnout will occur as a result of perceived or actual loss of these four resources. Furthermore, nurse burnout could affect work performance, leading to lower alertness and overall quality of care. Implications for nursing Healthcare organizations and nursing administration should develop strategies to protect nurses from the threat of resource loss to decrease nurse burnout, which may improve nurse and patient safety. The Conservation of Resources theory can guide interventions to decrease burnout and future research that examines the relationship between professional nurse burnout and patient safety. Conclusion The Conservation of Resources theory explains the aetiology, progression and consequences of nurse burnout. Future studies must explore whether nurse performance is a mediating factor between nurse burnout and patient safety.

Database: BNI

Enhancing Pediatric Perioperative Patient Safety
Author(s): Johnson, Quinn; McVey, Janette
Source: Association of Operating Room Nurses. AORN Journal; Nov 2017; vol. 106 (no. 5); p. 434
Abstract: The frequency of surgery for patients younger than 18 years of age is increasing, and pediatric procedures are being performed in all types of facilities. Careful development of care protocols and guidelines specifically designed for pediatric patients and regular assessment and consistent development of pediatric skills are required. Nurses play a critical role in the delivery of care for the pediatric patient during pediatric emergencies.

Database: BNI

SBAR, Communication, and Patient Safety: An Integrated Literature Review
Author(s): Stewart, Kathryn R; Hand, Kelli A
Source: Medsurg Nursing; 2017; vol. 26 (no. 5); p. 297
Abstract: According to The Joint Commission (2015), communication errors have been among the top three leading root causes of reported sentinel events every year since 2004. In two correlational descriptive studies assessing the consistency of handoff reports between nurses using SBAR, authors concluded handoffs formatted according to the SBAR template were more consistent (Cornell, Townsend-Gervis, Yates, & Vardaman, 2014; Wentworth et al., 2012). Because the order of the report is uniform regardless of the profession, experience, or position of the users, use of the SBAR template enables the speaker and the receiver to focus on the information being exchanged (Fay-Hillier, Regan, & Gallagher Gordon, 2012; Randmaa, Swenne, Martensson, Högberg, & Engström, 2016). Strengths and Limitations Only one randomized controlled study was found in the literature search (Joffe et al., 2013). Because of the lack of controlled studies, the bulk of the articles included in the integrated literature review cannot be used to conclude causation between use of SBAR and the proposed variables. [...]education regarding proper use of the SBAR tool should be added to nursing curricula to integrate this method of communication into practice during clinical experiences.

Database: BNI

On Patient Safety: Is it Possible to Operate Too Much?
Author(s): Lee, Michael
Source: Clinical Orthopaedics & Related Research; Dec 2017; vol. 475 (no. 12); p. 2858-2860
Database: CINAHL

High-Fidelity Patient Simulation to Evaluate Student Nurse Patient Safety Competency.
Author(s): Lee, Amy H.; Kelley, Carol; Alfes, Celeste M.; Bennington, Linda K.; Dolansky, Mary A.
Source: Clinical Simulation in Nursing; Dec 2017; vol. 13 (no. 12); p. 628-633
Abstract: Background Nurse educators are challenged to find innovative methods to help nursing students develop and remember fundamental skills while ensuring patient safety. Virtual reality (VR) headgear and custom haptic technology combined with game-based learning principles may provide an innovative approach to promoting mastery learning and retention. Method This mixed methods pilot study explored the usability of, and user reaction to, a game-based VR system designed to practice urinary catheterization. Time on task and number of procedures completed in one hour were compared to subjects that practiced traditionally, using a task trainer with faculty oversight. Follow-up skill demonstration was compared two weeks post-practice session. Results Subjects (n = 20) rated usability of the VR system favorably; they also rated practicing catheter insertion this way as highly engaging and enjoyable. Subjects using the VR system spent more time practicing (p = .001) and completed more procedures in one hour than students that practiced traditionally (p < .001). Follow-up skill demonstration pass rates between groups were identical at two weeks. Conclusion Practicing nursing skills using game-based VR may be an effective way to promote mastery learning and retention.

Database: CINAHL

A qualitative study of speaking out about patient safety concerns in intensive care units.
Author(s): Tarrant, Carolyn; Leslie, Myles; Bion, Julian; Dixon-Woods, Mary
Source: Social Science & Medicine; Nov 2017; vol. 193; p. 8-15
Abstract: Much policy focus has been afforded to the role of "whistleblowers" in raising concerns about quality and safety of patient care in healthcare settings. However, most opportunities for personnel to identify and act on these concerns are likely to occur much further upstream, in the day-to-day mundane interactions of everyday work. Using qualitative data from over 900 h of ethnographic observation and 98 interviews across 19 English intensive care units (ICUs), we studied how personnel gave voice to concerns about patient safety or poor practice. We observed much low-level social control occurring as part of day-to-day functioning on the wards, with challenges and sanctions routinely used in an effort to prevent or address mistakes and norm violations. Pre-emptions were used to intervene when patients were at immediate risk, and included strategies such as gentle reminders, use of humour, and sharp words. Corrective interventions included education and evidence-based arguments, while sanctions that were applied when it appeared that a breach of safety had occurred included "quiet words", bantering, public exposure or humiliation, scoldings and brutal reprimands. These forms of social control generally functioned effectively to maintain safe practice. But they were not consistently effective, and sometimes risked reinforcing norms and idiosyncratic behaviours that were not necessarily aligned with goals of patient safety and high-quality healthcare. Further, making challenges across professional boundaries or hierarchies was sometimes problematic. Our findings suggest that an emphasis on formal reporting or communication training as the solution to giving voice to safety concerns is simplistic; a more sophisticated understanding of social control is needed.

Database: CINAHL

Patient safety at the crossroads.
Author(s): Tingle, John
Source: British Journal of Nursing; Nov 2017; vol. 26 (no. 20); p. 1138-1139
Available at British Journal of Nursing - from EBSCO (CINAHL with Full Text)
Available at British Journal of Nursing - from EBSCO (CINAHL Complete)
Database: CINAHL

Speaking up about traditional and professionalism-related patient safety threats: a national survey of interns and residents.
Abstract: Background Open communication between healthcare professionals about care concerns, also known as ‘speaking up,’ is essential to patient safety. Objective Compare interns’ and residents’ experiences, attitudes and factors associated with speaking up about traditional versus professionalism-related safety threats. Design Anonymous, cross-sectional survey. Setting Six US academic medical centres, 2013–2014. Participants 1800 medical and surgical interns and residents (47% responded). Measurements Attitudes about, barriers and facilitators for, and self-reported experience with speaking up. Likelihood of speaking up and the potential for patient harm in two vignettes. Safety Attitude Questionnaire (SAQ) teamwork and safety scales; and Speaking Up Climate for Patient Safety (SUC-Safe) and Speaking Up Climate for Professionalism (SUC-Prof) scales. Results Respondents more commonly observed unprofessional behaviour (75%, 628/837) than traditional safety threats (49%, 410/837); p<0.001, but reported speaking up about unprofessional behaviour less commonly (46%, 287/628 vs 71%, 291/410; p<0.001). Respondents more commonly reported fear of conflict as a barrier to speaking up about unprofessional behaviour compared with traditional safety threats (58%, 482/837 vs 42%, 348/837; p<0.001). Respondents were also less likely to speak up to an attending physician in the professionalism vignette than the traditional safety vignette, even when they perceived high potential patient harm (20%, 49/251 vs 71%, 179/251; p<0.001). Positive perceptions of SAQ teamwork climate and SUC-Safe were independently associated with speaking up in the traditional safety vignette (OR 1.90, 99% CI 1.36 to 2.66 and 1.46, 1.02 to 2.09, respectively), while only a positive perception of SUC-Prof was associated with speaking up in the professionalism vignette (1.76, 1.23 to 2.50). Conclusions Interns and residents commonly observed unprofessional behaviour yet were less likely to speak up about it compared with traditional safety threats even when they perceived high potential patient harm. Measuring SUC-Safe, and particularly SUC-Prof, may fill an existing gap in safety culture assessment.

Database: CINAHL
with the ability to improve hand hygiene. Interventions may not be effective when applied in units with low levels of safety culture. Although additional research is needed to corroborate our findings, the safety culture on a unit can benefit from enhancement strategies such as team-building exercises. Strengthening the safety culture before implementing interventions could aid improvement and prevent nonproductive interventions. Infect Control Hosp Epidemiol 2017;38:1277–1283

Database: CINAHL

**Learning from the patient safety errors of the past.**

**Author(s):** Tingle, John  
**Source:** British Journal of Nursing; Oct 2017; vol. 26 (no. 19); p. 1078-1079  
Available at British Journal of Nursing - from EBSCO (CINAHL with Full Text)  
Available at British Journal of Nursing - from EBSCO (CINAHL Complete)  
**Abstract:** The article discusses the Great Britain National Health Service (NHS) Resolution agency's publication of the "Five Years of Cerebral Palsy Claims: A Thematic Review of NHS Resolution Data" report in 2017 which examines various British birth injury- and patient safety-related legal claims. Clinical negligence litigation and the costs associated with the medical needs of cerebral palsy and injured children are examined. The need for the NHS to learn from past patient safety errors is assessed.  
**Database:** CINAHL

**The role of nutrition and hydration in disease prevention and patient safety.**

**Author(s):** Ojo, Omorogieva  
**Source:** British Journal of Nursing; Oct 2017; vol. 26 (no. 18); p. 1020-1021  
Available at British Journal of Nursing - from EBSCO (CINAHL with Full Text)  
Available at British Journal of Nursing - from EBSCO (CINAHL Complete)  
**Abstract:** The article discusses what the authors refer to as the importance of nutrition and hydration in patient safety and disease prevention as of 2017, and it mentions how nutrition helps with human growth, development, and tissue repair. Malnutrition risk factors and treatments are examined, along with nutrient deficiency, health and social care expenses in Great Britain, and the claim that dehydrated patients are at risk of developing medical conditions such as dry mouth and xerostomia.  
**Database:** CINAHL

**Quality Improvement and Patient Safety on Labor and Delivery.**

**Author(s):** Sabol, Bethany; Caughey, Aaron B  
**Source:** Obstetrics and gynecology clinics of North America; Dec 2017; vol. 44 (no. 4); p. 667-678  
**Abstract:** There has been an emphasis on redesigning our health care system to eliminate medical errors and create a culture of safety. The American College of Obstetrics and Gynecologists defines a culture of safety as an environment in which all care providers are empowered to identify errors, near misses, risky behaviors and broader systems issues while engaging in active collaboration to improve and resolve processes and system failures. This article reviews key components that promote a culture of safety and help to implement safer, more effective, evidence-based quality care on labor and delivery units.  
**Database:** Medline

**Patient safety ward round checklist via an electronic app: implications for harm prevention.**

**Author(s):** Keller, C; Arsenault, S; Lamotte, M; Bostan, S R; O'Donnell, R; Harbison, J; Doherty, C P  
**Source:** Irish journal of medical science; Nov 2017
Abstract: INTRODUCTION Patient safety is a value at the core of modern healthcare. Though awareness in the medical community is growing, implementing systematic approaches similar to those used in other high reliability industries is proving difficult. The aim of this research was twofold, to establish a baseline for patient safety practices on routine ward rounds and to test the feasibility of implementing an electronic patient safety checklist application. METHODSTwo research teams were formed; one auditing a medical team to establish a procedural baseline of "usual care" practice and an intervention team concurrently was enforcing the implementation of the checklist. The checklist was comprised of eight standard clinical practice items. The program was conducted over a 2-week period and 1 month later, a retrospective analysis of patient charts was conducted using a global trigger tool to determine variance between the experimental groups. Finally, feedback from the physician participants was considered. RESULTSThe results demonstrated a statistically significant difference on five variables of a total of 16. The auditing team observed low adherence to patient identification (0.0%), hand decontamination (5.5%), and presence of nurse on ward rounds (6.8%). Physician feedback was generally positive. CONCLUSIONSThe baseline audit demonstrated significant practice bias on daily ward rounds which tended to omit several key-proven patient safety practices such as prompting hand decontamination and obtaining up to date reports from nursing staff. Results of the intervention arm demonstrate the feasibility of using the Checklist App on daily ward rounds.

Database: Medline


Author(s): Krause, Thomas R; Bell, Kristen J; Pronovost, Peter; Etchegaray, Jason M

Source: Journal of patient safety; Nov 2017

Abstract: Safety metrics in healthcare settings stand apart from those in all other industries. Despite improvements in the measurement and prevention of adverse health outcomes following the 1999 Institute of Medicine report, no fully operational national-level program for monitoring patient harm exists. Here, we review the annual rate of fatal adverse events in healthcare settings in the United States on the basis of previous research, assess the current state of measurements of patient harm, propose a national standard to both quantify harm and act as a performance driver for improved safety, and discuss additional considerations such as accountability and implications for tort reform under this standard. On the basis of experiences in other sectors, we propose a federally mandated, nonpunitive national system that relies on accurate measurement as a driver of performance.

Database: Medline

Nurses' Views Highlight a Need for the Systematic Development of Patient Safety Culture in Forensic Psychiatry Nursing.

Author(s): Kuosmanen, Anssi; Tiihonen, Jari; Repo-Tiihonen, Eila; Eronen, Markku; Turunen, Hannele

Source: Journal of patient safety; Nov 2017

Abstract: BACKGROUND Although forensic nurses work with the most challenging psychiatric patients and manifest a safety culture in their interactions with patients, there have been few studies on patient safety culture in forensic psychiatric nursing. OBJECTIVESThe aim of this qualitative study was to describe nurses' views of patient safety culture in their working unit and daily hospital work in 2 forensic hospitals in Finland. METHODSData were collected over a period of 1 month by inviting nurses to answer an open-ended question in an anonymous Web-based questionnaire. A qualitative inductive analysis was performed on nurses' (n = 72) written descriptions of patient safety culture in state-owned forensic hospitals where most Finnish forensic patients are treated. RESULTSSix main themes were identified: "systematization of an open and trusting communication culture," "visible and close interaction between managers and staff," "nonpunitive responses to errors, learning and developing," "balancing staff and patient perspectives on safety culture," "operational safety guidelines," and "adequate human resources to ensure safety." CONCLUSIONSThe findings highlight the influence of the prevailing culture on safety behaviors and outcomes for both healthcare workers.
and patients. Additionally, they underline the importance of an open culture with open communication and protocols.

**Database:** Medline

**How Can Safer Care Be Achieved? Patient Safety Officers’ Perceptions of Factors Influencing Patient Safety in Sweden.**

**Author(s):** Ridelberg, Mikaela; Roback, Kerstin; Nilsen, Per

**Source:** Journal of patient safety; Nov 2017

**Abstract:**

**OBJECTIVE**

This study aimed to survey health care professionals in Sweden on the factors that they believe have been most important in reaching the current level of patient safety and achieving safer care in the future as well as the characteristics of the county councils that have been the most successful in achieving safe care.

**METHODS**

The study population consisted of 222 patient safety officers, that is, health care professionals with strategic positions in patient safety work in the county councils. A postal questionnaire was used for data collection.

**RESULTSThe survey response rate was 70%.** The factors that were considered most important for the current level of patient safety were efforts to reduce the use of antibiotics; Swedish patient safety law; and internal discussions with the county council management, heads of health care units, health care providers, and so on. The factors that were considered most important to achieve safer care in the future were improved communication between health care practitioners and patients, improved organizational culture, improved communication, and patient safety knowledge as a compulsory component of basic education for health care practitioners.

**CONCLUSIONS**

Several factors rated highly for achieving the current level of patient safety are part of the government-supported financial incentive plan. Patient safety is attributed to a broad range of factors, and many solutions might contribute to improved patient safety in the future. The most successful county councils are characterized by leadership support for patient safety, well-organized patient safety work, long-term commitment to patient safety, and an organizational culture that is conducive to patient safety. This is an open-access article distributed under the terms of the Creative Commons Attribution-Non Commercial-No Derivatives License 4.0 (CCBY-NC-ND), where it is permissible to download and share the work provided it is properly cited. The work cannot be changed in any way or used commercially without permission from the journal.

**Database:** Medline

**Barriers to Speaking Up About Patient Safety Concerns.**

**Author(s):** Etchegaray, Jason M; Ottosen, Madelene J; Dancsak, Theresa; Thomas, Eric J

**Source:** Journal of patient safety; Nov 2017

**Abstract:**

**OBJECTIVES**

We sought to examine the association between willingness of health care professionals to speak up about patient safety concerns and their perceptions of two types of organizational culture (ie, safety and teamwork) and understand whether nursing professionals and other health-care professionals reported the same barriers to speaking up about patient safety concerns.

**METHODS**

As part of an annual safety culture survey in a large health-care system, we asked health-care professionals to tell us about the main barriers that prevent them from speaking up about patient safety concerns. Approximately 1341 respondents completed the anonymous, electronic survey.

**RESULTS**

A little more than half (55%) of the participants mentioned leadership (fear of no change or retaliation) and personal (ie, fear of negative feedback or being wrong) barriers concerning why they would not speak up about patient safety concerns. The remaining participants (45%) indicated they would always speak up. These findings about barriers were consistent across nurses and other health-care professionals. Safety culture (SC) and teamwork culture (TC) scores were significantly more positive in those indicating they would always speak up (SC = 89%, TC = 89%) than in those who provided reasons for not speaking up (SC = 63%, TC = 64%) (t(1205) = 13.99, P < 0.05, and t(1217) = 13.61, P < 0.05, respectively).

**CONCLUSIONS**

Health-care professionals emphasized leadership and personal barriers as reasons for not speaking up. We also demonstrated an association between not speaking up and lower safety and teamwork culture scores.

**Database:** Medline
Evaluation of Patient Safety Culture in Community Pharmacies.

Author(s): Aboneh, Ephrem A; Stone, Jamie A; Lester, Corey A; Chui, Michelle A
Source: Journal of patient safety; Nov 2017

Abstract: OBJECTIVE Medication errors are common in community pharmacies. Safety culture is considered a factor for medication safety but has not been measured in this setting. The objectives of this study were to describe safety culture measured using the Agency for Healthcare Research and Quality (AHRQ) Community Pharmacy Survey on Patient Safety Culture and to assess predictors of overall patient safety. METHOD This is a cross-sectional survey of community pharmacists practicing in Wisconsin measuring safety culture. Demographic variables collected included pharmacist and pharmacy characteristics. Data were analyzed using descriptive statistics, χ, and multivariate logistic regression analyses. RESULT A total of 445 surveys were completed (response rate, 82%). Safety culture was positively associated with the following: an independent pharmacy (adjusted odds ratio [AOR], 1.69; 95% confidence interval [CI], 1.11-2.57), a health maintenance organization or clinic (AOR, 2.25; 95% CI, 1.34-3.78), being somewhat familiar with patients (AOR, 3.35; 95% CI, 1.82-6.19), or very/extremely familiar with patients (AOR, 8.8; 95% CI, 4.68-16.59). Five of the composite scores differed significantly from the results of the AHRQ pilot study (response to mistakes, communication openness, organizational learning-continuous improvement, communication about prescriptions across shifts, and overall patient safety). Consistent with the AHRQ pilot study, the composite describing staffing, work pressure, and pace had the lowest score (37.6%). CONCLUSION Understanding the safety culture of community pharmacies can help identify areas of strength and those that require improvement. Improvement efforts that focus on staffing, work pressure, and pace in community pharmacies may lead to better safety culture.

Database: Medline

Incidence of patient safety events and process-related human failures during intra-hospital transportation of patients: retrospective exploration from the institutional incident reporting system.

Author(s): Yang, Shu-Hui; Jerng, Jih-Shuin; Chen, Li-Chin; Li, Yu-Tsu; Huang, Hsiao-Fang; Wu, Chao-Ling; Chan, Jing-Yuan; Huang, Szu-Fen; Liang, Huey-Wen; Sun, Jui-Sheng
Source: BMJ open; Nov 2017; vol. 7 (no. 11); p. e017932
Available at BMJ Open - from HighWire - Free Full Text
Available at BMJ Open - from Europe PubMed Central - Open Access

Abstract: BACKGROUND Intra-hospital transportation (IHT) might compromise patient safety because of different care settings and higher demand on the human operation. Reports regarding the incidence of IHT-related patient safety events and human failures remain limited. OBJECTIVE To perform a retrospective analysis of IHT-related events, human failures and unsafe acts. SETTING A hospital-wide process for the IHT and database from the incident reporting system in a medical centre in Taiwan. PARTICIPANTS All eligible IHT-related patient safety events between January 2010 to December 2015 were included. MAIN OUTCOME MEASURES Incidence rate of IHT-related patient safety events, human failure modes, and types of unsafe acts. RESULTS There were 206 patient safety events in 2,009,013 IHT sessions (102.5 per 1,000,000 sessions). Most events (n=148, 71.8%) did not involve patient harm, and process events (n=146, 70.9%) were most common. Events at the location of arrival (n=101, 49.0%) were most frequent; this location accounted for 61.0% and 44.2% of events with patient harm and those without harm, respectively (p<0.001). Of the events with human failures (n=186), the most common related process step was the preparation of the transportation team (n=91, 48.9%). Contributing unsafe acts included perceptual errors (n=14, 7.5%), decision errors (n=56, 30.1%), skill-based errors (n=48, 25.8%), and non-compliance (n=68, 36.6%). Multivariate analysis showed that human failure found in the arrival and hand-off sub-process (OR 4.84, p<0.001) was associated with increased patient harm, whereas the presence of omission (OR 0.12, p<0.001) was associated with less patient harm. CONCLUSION This study shows a need to reduce human failures to prevent patient harm during intra-hospital transportation. We suggest that
the transportation team pay specific attention to the sub-process at the location of arrival and prevent errors other than omissions. Long-term monitoring of IHT-related events is also warranted.

**Database:** Medline

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**Sure, or unsure? Measuring students' confidence and the potential impact on patient safety in multiple-choice questions.**

**Author(s):** Rangel, Rafael Henrique; Möller, Leona; Sitter, Helmut; Stibane, Tina; Strzelczyk, Adam

**Source:** Medical teacher; Nov 2017; vol. 39 (no. 11); p. 1189-1194

**Abstract:** BACKGROUND: Multiple-choice questions (MCQs) provide useful information about correct and incorrect answers, but they do not offer information about students' confidence. METHODS: Ninety and another 81 medical students participated each in a curricular neurology multiple-choice exam and indicated their confidence for every single MCQ. Each MCQ had a defined level of potential clinical impact on patient safety (uncritical, risky, harmful). Our first objective was to detect informed (IF), guessed (GU), misinformed (MI), and uninformed (UI) answers. Further, we evaluated whether there were significant differences for confidence at correct and incorrect answers. Then, we explored if clinical impact had a significant influence on students' confidence. RESULTS: There were 1818 IF, 635 GU, 71 MI, and 176 UI answers in exam I and 1453 IF, 613 GU, 92 MI, and 191 UI answers in exam II. Students' confidence was significantly higher for correct than for incorrect answers at both exams (p < 0.001). For exam I, students' confidence was significantly higher for incorrect harmful than for incorrect risky classified MCQs (p = 0.01). At exam II, students' confidence was significantly higher for incorrect harmful than for incorrect benign (p < 0.01) and significantly higher for correct benign than for correct harmful categorized MCQs (p = 0.01). CONCLUSIONS: We were pleased to see that there were more informed than guessed, more uninformed than misinformed answers and higher students' confidence for correct than for incorrect answers. Our expectation that students state higher confidence in correct and harmful and lower confidence in incorrect and harmful MCQs could not be confirmed.

**Database:** Medline

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**Where should patient safety be installed?**

**Author(s):** Sine, David M; Paull, Doug

**Source:** Journal of healthcare risk management : the journal of the American Society for Healthcare Risk Management; Nov 2017

**Abstract:** The structure of an organization is important, and structure has a profound influence on the way people work and what gets done. Where work units and individuals in an organization are placed, to whom they report, and with whom they are grouped signals power, prestige, and privilege. It also divides workers into groups with common interests and motivations. The question is, where should patient safety be placed in a health care organization? Such a question can be answered only within a framework of understanding that gives a clear definition to patient safety. We define safety, as do safety professionals from other industries, as the reduction of risk. This definition is also in concert with the risk management model that identifies claims management, risk financing, and loss control as its foundational triad.

**Database:** Medline
**HUMAN FACTORS**

**Humanising medicine: taking our first step.**

**Author(s):** Joong Hiong Sim; Choon, David S. K.; Pallath, Vinod; Wei-Han Hong

**Source:** Medical Education; Nov 2017; vol. 51 (no. 11); p. 1186-1186

**Abstract:** The article discusses research on the need for teaching empathy as part of medical education using humanities education as part of medical education. Topics include the use of blended learning, the provision of communication skills workshops, and efforts to raise student awareness of human factors in medicine.

**Database:** CINAHL

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**Preventing Retained Central Venous Catheter Guidewires: A Randomized Controlled Simulation Study Using a Human Factors Approach.**

**Author(s):** Mariyaselvam, Maryanne Z. A.; Catchpole, Ken R.; Menon, David K.; Gupta, Arun K.; Young, Peter J.

**Source:** Anesthesiology; Oct 2017; vol. 127 (no. 4); p. 658-665

Available at Anesthesiology - from Ovid (LWW High Impact Collection) - 2016

**Abstract:** Background: Retained central venous catheter guidewires are never events. Currently, preventative techniques rely on clinicians remembering to remove the guidewire. However, solutions solely relying upon humans to prevent error inevitably fail. A novel locked procedure pack was designed to contain the equipment required for completing the procedure after the guidewire should have been removed: suture, suture holder, and antimicrobial dressings. The guidewire is used as a key to unlock the pack and to access the contents; thereby, the clinician must remove the guidewire from the patient to complete the procedure. Methods: A randomized controlled forced-error simulation study replicated catheter insertion. We created a retained guidewire event and then determined whether clinicians would discover it, comparing standard practice against the locked pack. Results: Guidewires were retrieved from 2/10 (20%) standard versus 10/10 (100%) locked pack, n = 20, P < 0.001. In the locked pack group, participants attempted to complete the procedure; however, when unable to access the contents, this prompted a search for the key (guidewire). Participants discovered the guidewire within the catheter lumen, recovered it, utilized it to unlock the pack, and finish the procedure. A structured questionnaire reported that the locked pack also improved subjective safety of central venous catheter insertion and allowed easy disposal of the sharps and guidewire (10/10). Conclusions: The locked pack is an engineered solution designed to prevent retained guidewires. Utilizing forced-error simulation testing, we have determined that the locked pack is an effective preventative device and is acceptable to clinicians for improving patient safety.

**Database:** CINAHL

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**Human Factors Evaluation of Surgeons’ Working Positions for Gynecologic Minimal Access Surgery.**

**Author(s):** Hignett, Sue; Gyi, Diane; Calkins, Lisa; Jones, Laura; Moss, Esther

**Source:** Journal of minimally invasive gynecology; 2017; vol. 24 (no. 7); p. 1177-1183

**Abstract:** STUDY OBJECTIVE To investigate work-related musculoskeletal disorders (WRMSD) in gynaecological minimal access surgery (MAS), including bariatric (plus size) patients DESIGN: Mixed methods (Canadian Task Force classification III). SETTING Teaching hospital in the United Kingdom. MEASUREMENTS Survey, observations (anthropometry, postural analysis), and interviews. RESULTS Work-related musculoskeletal disorders (WRMSDs) were present in 63% of the survey respondents (n = 67). The pilot study (n = 11) identified contributory factors, including workplace layout, equipment design, and preference of port use (relative to patient size). Statistically significant differences for WRMSD-related posture risks were found within groups (average-size mannequin and plus-size mannequin) but not between patient size groups, suggesting that port preference may be driven by surgeon preference (and experience) rather than by patient size. CONCLUSION Some of the challenges identified in this project need new engineering solutions to
allow flexibility to support surgeon choice of operating approach (open, laparoscopic or robotic) with a workplace that supports adaptation to the task, the surgeon, and the patient.

**Database:** Medline

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**A call to incorporate systems theory and human factors into the existing investigation of harm in clinical research involving healthcare products.**

**Author(s):** Edwards, Brian D; Bégaud, Bernard; Daemen, Esther; Dokas, Ioannis; Fishbein, Jonathan M; Greenberg, Howard E; Hochberg, Alan; Le Louet, Hervé; Lyngvig, Jytte; Mоглес, Nataliya; Owen, Kathryn; Prendergast, Christine; Rejzek, Martin; Trantza, Sophia; Webb, David J; Whalen, Matthew; Whiteley, Simon

**Source:** British journal of clinical pharmacology; Nov 2017; vol. 83 (no. 11); p. 2339-2342

**Abstract:** This is a joint statement from individual pharmacology and pharmaceutical professionals acting in their own capacity, including members of the Alliance for Clinical Research Excellence and Safety (ACRES) and the International Society of Pharmacovigilance (ISoP). By building on the extensive pharmacological and regulatory investigations that already take place, we are calling for a fuller and more robust systems-based approach to the independent investigation of clinical research when serious incidents of harm occur, starting with first-in-human clinical trials. To complement existing activities and regulations, we propose an additional approach blending evidence derived from both pharmacological and organizational science, which addresses human factors and transparency, to enhance organizational learning and continuous improvement. As happens with investigations in other sectors of society, such as the chemical and aviation sector, this systems approach should be seen as an additional way to understand how problems occur and how they might be prevented in the future. We believe that repetition of potentially preventable and adverse outcomes during clinical research, by failing to identify and act upon all systematic vulnerabilities, is a situation that needs urgent change. As we will discuss further on, approaches based on applying systems theory and human factors are much more likely to improve objectivity and transparency, leading to better system design.

**Database:** Medline

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**Comparative usability of modern anaesthesia ventilators: a human factors study.**

**Author(s):** Spaeth, J; Schweizer, T; Schmutz, A; Buerkle, H; Schumann, S

**Source:** British journal of anaesthesia; Nov 2017; vol. 119 (no. 5); p. 1000-1008

**Abstract:** Background The anaesthesia ventilator represents the key equipment for intraoperative respiratory care. Improper operation of this device may threaten a patient's health. A self-explanatory interface facilitates handling and decreases the risk of operating errors. This study systematically evaluates the usability of user interfaces in four modern anaesthesia ventilators. Methods Twenty naïve operators were asked to execute 20 tasks on each of four different anaesthesia ventilators (Avance CS2™, GE Healthcare; Flow-i™, Maquet; and Perseus™ and Primus™, Dräger) in a randomized order. The success of task execution, frequency of requests for assistance, and processing times were recorded. During the tasks, the operators' visual focus was measured via eye-tracking. Additionally, subjective assessments of usability were evaluated by a standardized questionnaire. For comparison, six experienced operators undertook the same protocol. Results The overall rate of falsely executed tasks was low. Naïve operators requested assistance least when using the Perseus (26). Pooled processing times were shortest for the Perseus (222 s), followed by the Primus (223 s), the Avance (238 s), and the Flow-i (353 s). Task-specific processing times differed considerably between the devices. Eye-tracking analyses revealed associated interface issues that impeded the operators' performance. Operators rated usability best for the Perseus [mean (sd): 67 (17) arbitrary units] and worst for the Flow-i [50 (16) arbitrary units]. Results from experienced operators support these findings by trend. Conclusions The usability of modern anaesthesia ventilators differs considerably. Interface issues of specific tasks impair the operator's efficiency. Eliminating the specific usability issues might improve the operator's performance and, as a consequence, the patient's safety.

**Database:** Medline
Comparing safety climate for nurses working in operating theatres, critical care and ward areas in the UK: a mixed methods study.

Author(s): Tarling, Maggie; Jones, Anne; Murrells, Trevor; McCutcheon, Helen

Source: BMJ open; Oct 2017; vol. 7 (no. 10); p. e016977

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Abstract: OBJECTIVE The main aim of the study was to explore the potential sources of variation and understand the meaning of safety climate for nursing practice in acute hospital settings in the UK. DESIGN A sequential mixed methods design included a cross-sectional survey using the Safety Climate Questionnaire (SCQ) and thematic analysis of focus group discussions. Confirmatory factor analysis (CFA) was used to validate the factor structure of the SCQ. Factor scores were compared between nurses working in operating theatres, critical care and ward areas. Results from the survey and the thematic analysis were then compared and synthesised. SETTING A London University. PARTICIPANTS 319 registered nurses working in acute hospital settings completed the SCQ and a further 23 nurses participated in focus groups. RESULTS CFA indicated that there was a good model fit on some criteria (χ²=1683.699, df=824, p<0.001; χ²/df=2.04; root mean square error of approximation=0.058) but a less acceptable fit on comparative fit index which is 0.804. There was a statistically significant difference between clinical specialisms in management commitment (F (4,266)=4.66, p=0.001). Nurses working in operating theatres had lower scores compared with ward areas and they also reported negative perceptions about management in their focus group. There was significant variation in scores for communication across clinical specialism (F (4,266)=2.62, p=0.035) but none of the pairwise comparisons achieved statistical significance. Thematic analysis identified themes of human factors, clinical management and protecting patients. The system and the human side of caring was identified as a meta-theme. CONCLUSION The results suggest that the SCQ has some utility but requires further exploration. The findings indicate that safety in nursing practice is a complex interaction between safety systems and the social and interpersonal aspects of clinical practice.

Database: Medline

DETERIORATING PATIENTS

The effect of adult Early Warning Systems education on nurses' knowledge, confidence and clinical performance: A systematic review

Author(s): Saab, Mohamad M; McCarthy, Bridie; Andrews, Tom; Savage, Eileen; Drummond, Frances J; Walshe, Nuala; Forde, Mary; Breen, Dorothy; Henn, Patrick; Drennan, Jonathan; Hegarty, Josephine

Source: Journal of Advanced Nursing; Nov 2017; vol. 73 (no. 11); p. 2506

Abstract: Aims This review aims to determine the effect of adult Early Warning Systems education on nurses' knowledge, confidence and clinical performance. Background Early Warning Systems support timely identification of clinical deterioration and prevention of avoidable deaths. Several educational programmes have been designed to help nurses recognize and manage deteriorating patients. Little is known as to the effectiveness of these programmes. Design Systematic review. Data sources Academic Search Complete, CINAHL, MEDLINE, PsycINFO, PsycARTICLES, Psychology and Behavioral Science Collection, SocINDEX and the UK & Ireland Reference Centre, EMBASE, the Turning Research Into Practice database, the Cochrane Central Register of Controlled Trials (CENTRAL) and Grey Literature sources were searched between October and November 2015. Review methods This is a quantitative systematic review using Cochrane methods. Studies published between January 2011 - November 2015 in English were sought. The risk of bias, level of evidence and the quality of evidence per outcome were assessed. Results Eleven articles with 10 studies were included. Nine studies addressed clinical performance, four addressed knowledge and two addressed confidence. Knowledge, vital signs recording and Early Warning Score calculation were improved in the short term. Two interventions had no effect on nurses' response to clinical deterioration and use of
communication tools. Conclusion This review highlights the importance of measuring outcomes using standardized tools and valid and reliable instruments. Using longitudinal designs, researchers are encouraged to investigate the effect of Early Warning Systems educational programmes. These can include interactive e-learning, on-site interdisciplinary Early Warning Scoring systems training sessions and simulated scenarios.

**Database:** BNI

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**Deteriorating Patients: Global Reach and Impact of an E-Simulation Program.**

**Author(s):** Cooper, Simon J.; Hopmans, Ruben; Cant, Robyn P.; Bogossian, Fiona; Giannis, Anita; King, Rosey

**Source:** Clinical Simulation in Nursing; Nov 2017; vol. 13 (no. 11); p. 562-572

**Abstract:** Background E-simulation may enable a feasible education solution to the management of deteriorating patients. Method The study involves a pre–post quasi-experimental evaluation of global data on educational outcomes from an e-simulation program. Results Qualified nurses (n = 1,229) and final year nursing students (n = 1,742) were among 5,511 participants from 20 countries who completed the program. Both groups' knowledge and performance improved significantly (p = <.001) with no difference between groups. Regression analysis revealed predictors of performance were education level, knowledge, experience, and being female. Participants positively evaluated the program and mode of delivery. Conclusion E-simulation may enhance students' preparation for practice and improve qualified nurses' management of deteriorating patients.

**Database:** CINAHL

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**Nurses’ experiences of managing patient deterioration following a post-registration education programme: A critical incident analysis study.**

**Author(s):** Butler, Clare

**Source:** Nurse education in practice; Oct 2017; vol. 28 ; p. 96-102

**Abstract:** The aim of this study was to explore nurses' experiences assessing and managing deteriorating patients in practice following completion of a relevant post-registration education programme. Recognising the increasing acuity of ward patients, nurses are faced with patients who are at an increased risk of deterioration. Patients who are acutely ill or deteriorating often exhibit periods of physiological deterioration; however there is evidence illustrating that these clinical changes are frequently missed, misinterpreted or mismanaged in practice. In order to prepare nurses to competently assess and manage the deteriorating patient, education as a care initiative is offered to develop the knowledge and skills required. A qualitative study using critical incident analysis was conducted to acquire narrative data from nurses, describing their clinical practice experiences of patient deterioration. Thematic analysis was used to analyse the data. Findings revealed improvements in nurses' abilities to recognise patient deterioration, greater application of the evidence base and an increase in confidence and assertiveness. There was some evidence of applying the knowledge and skills learned, however equally some nurses indicated that they remained ill-prepared to apply the skills in practice.

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**Quality health care : a guide to developing and using indicators. 2nd ed (2019) by Robert Lloyd**

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NHS Improvement has published Our approach to patient safety: NHS Improvement’s focus in 2017/18. This guide describes NHS Improvement’s statutory patient safety duties and what they are doing to lead and support patient safety improvement across the NHS.

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World Sepsis Day
https://www.world-sepsis-day.org/

Sepsis Alliance
https://www.sepsis.org/medical-professionals/

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