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1. Adverse Events Associated with Nonablative Cutaneous Laser, Radiofrequency, and Light-Based Devices.

Dawson E., Willey A., Lee K.

Semin Cutan Med Surg. 2007 (Mar); 26(1):15-21.

This article focuses on adverse events resulting from nonablative laser, light-based, radiofrequency device treatment, and ways of addressing and preventing these potential complications. Increasingly in use for both medical and cosmetic procedures, laser treatments are generally considered safe, but there is still the potential for unwanted outcomes. Discussed in the article are indications for use of laser treatment; types of treatment; and potential sources of adverse events, such as patient factors, professional errors, common side effects of treatment, and more significant complications. The authors stress the need for full disclosure of possible adverse events before treatment begins and the importance of operator education and experience, particularly in light of the variety of practitioners who provide laser treatment. Several photographs are included in the article.

2. Automated Identification of Adverse Events Related to Central Venous Catheters.

Penz J.F.E., Wilcox A.B., Hurdle J.F.

Journal of Biomedical Informatics. 2007 (Apr); 40(2):174-182.

This study sought to evaluate the efficacy of text-based semi-automated methods for identification of adverse events (AEs) involving central venous catheters (CVCs.) Two methods, the MedLEE Natural Language Processing (NLP) program and a phrase-matching algorithm, were applied to 316 patient records chosen from the Salt Lake City Veterans Administration Medical Center database between June 1999-December 2004 and the results compared with results of a manual review of the records. A set of phrases associated with CVC-related AEs was determined by polling 30 patient records outside of the study group, as well as other sources. Results showed MedLEE and the phrase-matching algorithm demonstrated reliability close to that of human detection; the phrase-matching algorithm was more sensitive and less specific, while the the NLP method was more specific but less sensitive. The authors suggest that such methods hold promise for applications concerning identification and prevention of AEs. Several figures are included in the article.

3. Breast Imaging and Computer-Aided Detection.

Hall F.M.

N Engl J Med. 2007 (Apr 5); 356(14):1464-1466.

In this editorial Hall discusses breast imaging and computer-aided breast cancer detection methods in relation to results of the study by Fenton et al., "Influence of Computer-Aided Detection on Performance of Screening Mammography," appearing in the same issue of the New England Journal of Medicine and included in this issue of Current Awareness. Hall discusses the two newest methods for breast screening: digital mammography and computer-aided detection. The author notes that, according to results of the Fenton et al. study, these new methods did not increase cancer detection and produced an increased number of false positive results. Also discussed is the high cost of the new units. However, advantages of the units are also noted, such as the potential benefits of teleradiology, which would enable remote reading by radiologists. Finally, Hall states that although these breast screening tools have been put under scrutiny, they nonetheless will continue to be used.

4. Clinical Risk Management and Patient Safety Education for Nurses: A Critique.

Johnstone M.-J., Kanitsaki O.

Nurse Education Today. 2007; 27:185-191.

In this article Johnstone and Kanitsaki discuss nurses' critical role in clinical risk management (CRM) and argue that educational programs to support nurses in this capacity are lacking. The authors report that recent searches of clinical databases resulted in few relevant studies focused on CRM education; they cite difficulties in demonstrating a multidisciplinary and interprofessional approach to CRM and patient safety education and cultural differences as barriers to effective CRM education. The authors propose a model for CRM education, citing as an example the UK multidisciplinary training program "Managing life in the NHS: educating toward clinical governance." Also mentioned are the seven learning areas identified in the Australian National patient safety education framework, including communication, managing adverse events and near misses, and continuing education. The authors conclude by restating the need for an educational program that will meet the needs of nurses at all levels.

5. Development of an Illustrated Medication Schedule as a Low-Literacy Patient Education Tool.

Kripalani S., Robertson R., Love-Ghaffari M.H., et al.

Patient Education and Counseling. Article in Press (Mar 5) 2007.

This article discusses the development, implementation and evaluation of an illustrated “pill card” designed to aid low literacy patients in adhering to medication schedules. The pill card was developed as part of a randomized controlled study, Improving Medication Adherence through Graphically Enhanced interventions in Coronary Heart Disease (IMAGE-CHD), in which participants received either the illustrated pill card, refill reminder postcards, or both interventions; of a total of 435 study subjects, 242 received the pill card intervention. Follow-up interview information was evaluated to determine the effectiveness of the intervention, and how responses varied according to literacy level. Results of the formative evaluation led to modifications to the card including larger font sizes, addition of meal times, and greater differentiation in the symbols used. Results of the summative evaluation showed most participants found the card helpful and easy to use; low literacy patients in particular used the card more frequently and were more likely to note that it was helpful. A majority of participants reported continued use of the pill card after the follow-up interview, and 25% reported using the card to assist them in communicating with their primary care physicians. The authors conclude that the implementation of an illustrated medication tool is beneficial to low literacy patients. Several tables and two figures are included.

6. Factors Influencing Perioperative Nurses’ Error Reporting Preferences.

Espin S., Regehr G., Levinson W., Baker G.R., Biancucci C., Lingard L.

AORN Journal. 2007 (Mar); 85(3):527-543.

This study, following previous research by the same authors, sought to examine nurses’ error reporting decisions in relation to scope of practice and patient outcomes. 13 perioperative nurses at a Canadian quaternary teaching hospital were presented with four different hypothetical event scenarios and were subsequently interviewed as to how they would categorize each event, whether they would report the event, and why or why not. Out of the responses collected, 60% indicated that an error had occurred; of these errors, 60% would be reported and 44% of the reported errors would be reported through a formal reporting system, translating to 15%, or eight out of 52 of the errors being reported with a formal reporting system. Results further showed that nurses preferred informal reporting methods such as reporting to other nurses or via nursing notes. The authors conclude that scope of practice is a significant factor in nurses’ error reporting, and that error reporting may thus be impeded when events fall outside nurses’ perceived scope of practice. Several tables illustrating the error scenarios are included in the article.

7. Healthcare-Associated Infections in Neonatal Units: Lessons From Contrasting Worlds.

Srivastava S., Shetty N.

Journal of Hospital Infection. 2007 (Mar 9); 65:292-306.

This review of literature studies healthcare-associated infections (HAIs) in neonatal units in resource-rich and resource-limited settings, and discusses microbiological and infection control approaches to their prevention. Methodology involved a literature search of the PubMed database resulting in 125 articles on HAIs. Review results showed neonates exposed to devices such as umbilical catheters, endotracheal tubes, and other instruments, along with contact with not properly washed hands, and placement in the Neonatal Intensive Care Unit (NICU), were at significantly higher risk for HAIs. Environmental factors such as humidity were also found to be a factor in HAI outbreaks, as were low birth weight, premature birth, and broad-spectrum antibiotic use. The authors suggest interplay between microbiologists and neonatologists can provide an antibiotic policy that aids in the prevention of HAIs, as can hand washing. Two boxes and several tables are included in the article.

8. Hospital Leadership and Quality Improvement: Rhetoric Versus Reality.

Levey S., Vaughn T., Koepke M., Moore D., Lehrman W., Sinha S.

J Patient Saf. 2007 (Mar); 3(1):9-15.

In this qualitative study interviews were conducted to gain insight into various hospital leaders' attitudes toward and involvement in patient safety and quality improvement (QI). Participants included 26 board members, 18 CEOs, 17 chief medical officers (CMOs), 17 chief quality officers (CQOs), and 18 medical staff members. A total of 18 urban and rural not-for-profit community hospitals participated in the study during November 2004 through June 2005. Responses from each group of interviewees are discussed in detail. While responses showed general agreement among all interviewees regarding the priority of patient safety and QI, CEOs and board members tended to be more enthusiastic in their support, while CMOs were more likely to express reservations. Although financial considerations were a concern among the leadership with regard to implementation of QI and patient safety improvements, the authors also cite resistance to change as an impediment to adopting QI initiatives. Overall, the authors question whether the "rhetoric" surrounding QI has been backed up by performance.

9. Improving Medical Education: Improving Patient Care.

Pugsley L., McCrorie P.

Teaching and Teacher Education. 2007; 23:314-322.

In this article Pugsley and McCrorie discuss several aspects of medical education including the commonalities and differences among medical education and other academic disciplines, changes in the implementation of medical education and the resulting enhancement of patient care and safety, and the direction in which they feel the discipline of medical education should move. Four reasons the medical field differs from other academic fields are explained at the article outset: specificity of medical training, teachers who are not guided by a university or college system, funding, and the shrinking role of teaching as opposed to clinical responsibilities. Advances in medical education are also discussed. They include technological advances leading to, among other improvements, greater access to information, and skills assessment such as the Objective Structured Clinical Examination (OSCE). The authors discuss changes within the medical field worldwide and the need for staff development to adjust to these changes. The authors pinpoint the shift of curriculum control from discipline leaders to department faculty as the most significant and detrimental change in medical education in the past twenty years. Finally, they argue that a more disciplined, rounded and “theory driven” agenda is needed to enhance medical education.

10. Influence of Computer-Aided Detection on Performance of Screening Mammography.

Fenton J.J., Taplin S.H., Carney P.A., et al.

N Engl J Med. 2007 (Apr 5); 356(14):1399-1409.

This study sought to evaluate the influence of the use of computer-aided detection in screening mammography with respect to breast cancer detection and biopsy rate, sensitivity, specificity and positive predictive value. Methodology consisted of analysis of survey data collected from mammography facilities and affiliated radiologists and compared to benign and malignant mammograms collected over a four-year period from registries in three states: the Group Health Cooperative Breast Cancer Surveillance System, the New Hampshire Mammography Network, and the Colorado Mammography Program. Results showed computer-aided detection resulted in a higher rate of false positive readings as compared to traditional methods. Also, computer-aided detection did not result in increased cancer detection. Computer-aided detection did lead to a higher detection of ductal carcinoma in situ, which the authors assert may be due the software’s tendency to delineate decalcifications. The authors conclude by stating more studies of computer-aided detection are needed to determine if its benefits outweigh its disadvantages.

11. Integrating Patient Safety Into Curriculum: The Purdue University Doctor of Nursing Practice.

Rapala K., Novak J.C.

Patient Saf & Qual Healthcare. 2007 (Mar/Apr):1-9.

In this article Rapala and Novak discuss integrating patient safety with education through Purdue University's Doctor of Nursing Practice (DNP) educational program, developed in response to the Institute of Medicine's (IOM) 2002 publication, "Health Professions Education: A Bridge to Quality." The DNP program emphasizes the translation of research and theory into practice; critical knowledge areas for the DNP, listed in the article, include healthcare policy for advocacy in healthcare, scientific underpinnings for practice, and clinical scholarship and analytical methods for evidence based practice. The rationale for and development of the DNP program, curriculum, and goals and vision for the program are outlined. Also highlighted is the program's integration with disciplines outside health care, in particular its ongoing collaboration with the Purdue University Regenstreif Center for Healthcare Engineering (RCHE). Lastly, the authors discuss the outcomes of the DNP program, concluding that education and healthcare need to be evaluated on a consistent basis.

12. Medication Safety in a Psychiatric Hospital.

Rothschild J.M., Mann K., Keohane C.A., et al.

General Hospital Psychiatry. 2007 (Mar/Apr); 29(2):156-162.

This prospective study sought to characterize the incidence and attributes of medication errors (MEs) and adverse drug events (ADEs) in the psychiatric context. The study was conducted between September 2004 and February 2005 at a 172-bed New England academic psychiatric hospital. Data collection consisted of review of charts and medication orders, nurse and physician reports, and nursing and pharmacy intervention reports for 1559 patients with 1871 admissions over 19,180 patient-days. Results identified 191 ADEs, 25 of which were preventable, and 178 near miss MEs, 95 categorized as nonintercepted near misses. Error types included wrong and missed medication dosages and nursing transcription errors. The authors conclude that MEs and ADEs occur in psychiatric hospitals with approximately the same frequency as in general hospitals, and suggest that further research is needed to determine how best to address this issue. Several tables are included.

13. Online Support for IV Drug Administration: Evidence-Based Nursing at WakeMed Health & Hospitals.

Smith A.

Patient Saf & Qual Healthcare. 2007 (Mar/Apr):1-7.

Available at: <http://www.psqh.com/marapr07/online.html>

In this article Smith discusses the Raleigh, North Carolina WakeMed hospital system's creation and implementation of MED Smart, an online portal providing facilitated access to IV guidelines, IV compatibility data and drug information. The author discusses Wakemed's suitability for such a system, the transformation from a paper-based medication system to an online system, and the resulting reduction in errors and improvement in patient safety. Also included are statistics on IV drug error, including medication errors as a result of pump problems, patient deaths from adverse drug events (ADEs) due to wrong dosage, and wrong drug administration. The author concludes by touching on future plans for MED Smart, including implementation in other contexts, such as nursing facilities and home care.

14. Patient Safety in Women's Health Care: A Framework for Progress.

Gluck P.A.

Best Practice & Research Clinical Obstetrics and Gynaecology. Article in Press 2007.

In this article Gluck gives an overview of the current state of patient safety, arguing that despite widespread awareness and discussion the subject, it is difficult to ascertain if any progress has been made. Following definitions of medical error and statistics on error rates, the author discusses the modern healthcare system in terms of an error theory framework to explain how errors can occur despite the system's safeguards. Finally, three ways for improving health care safety and five categories of solutions are proposed and discussed: leadership, respect of human limits, effective team work, creation of a learning environment and expecting the unexpected. Finally, the author concludes that patient safety is not a destination in itself but rather a continuous process of improvement.

- 15. Patterns of Communication Breakdowns Resulting in Injury to Surgical Patients.**
Greenberg C.C., Regenbogen S.E., Studdert D.M., et al.
J Am Coll Surg. 2007 (Apr); 204(4):533-540.
This study aimed to identify types of communication breakdowns occurring during the surgical process and to develop potential interventions to prevent such breakdowns. Using data originally gathered in the Malpractice Insurers' Medical Error Prevention Study (MIMEPS), 444 surgical malpractice claims were evaluated. Of these, 258 claims were found to involve an error resulting in patient injury, 60 of which, in turn, were determined to involve a communication breakdown and are the focus of the study reported here. The 60 claims were reviewed by two surgeon-investigators (Drs. Greenberg and Regenbogen). Results showed the total cases involved 81 communication breakdowns; 72% involved a single communication breakdown, while 23% involved two breakdowns and 5% involved three or more breakdowns. Further analyses showed communication breakdown occurred equally in the preoperative, intraoperative and postoperative stages of surgery, and that the majority of communication breakdowns were verbal. The authors conclude that communication breakdown is a common cause of surgical adverse events, and suggest that a more standardized communication process during handoff and transfer procedures, and increased use of preventive techniques such as read-backs, are needed. Several tables are included in the article.
- 16. Postmenopausal Hormone Therapy and Risk of Cardiovascular Disease by Age and Years Since Menopause.**
Rossouw J.E., Prentice R.L., Manson J.E.
JAMA. 2007 (Apr 4); 297(13):1465-1477.
The objective of this study was to assess whether the relationship between hormone replacement therapy and risk of coronary heart disease (CHD) depends on the timing of a hormone therapy (HRT) program and a woman's age and stage of menopause. Methodology consisted of randomized controlled trials and analyses involving 10,739 post-menopausal women who had undergone a hysterectomy and received either conjugated equine estrogens (CEE) or a placebo, and 16,608 postmenopausal women who had not undergone a hysterectomy and received either CEE and medroxyprogesterone acetate (CEE+MPA) or a placebo. Results showed CHD events were more prevalent for women furthest from menopause with a previous CHD history and/or vasomotor symptoms, and that the greatest CHD risk occurred in women 20 years or further from menopause; however, these results were not considered statistically significant. The authors conclude by stating these results are consistent with previous study findings and recommendations concerning use of HRT. Several tables are included.

- 17. Reducing Neonatal Nosocomial Bloodstream Infections Through Participation in a National Surveillance System.**
Schwab F., Geffers C., Bärwolff S, Rüden H., Gastmeier P.
Journal of Hospital Infection. 2007 (Mar 12); 65(4):319-325.
The intent of this study was to assess the impact of a national nosocomial surveillance system in Germany (NEO-KISS) on incidence of blood stream infections (BSIs) and pneumonia in neonatal intensive care units (NICUs) participating in the program. Data for the first three years of participation was collected from 24 qualifying NICUs for 3856 infants over 152,437 patient days. Results showed that BSI rates were significantly lower in the third year of participation than in the first year; although pneumonia rates were slightly reduced, the difference was not found to be statistically significant. The authors conclude that participation in the NEO-KISS system significantly reduced nosocomial infection rates. Several tables and figures are included in the article.
- 18. The First 10 Minutes: Taking Medical Simulation to the Field.**
Patow C.A.
Patient Saf & Qual Healthcare. 2007 (Mar/Apr):1-7.
Available at: <http://www.psqh.com/marapr07/simulation.html>
This article highlights “The First 10 Minutes,” a simulation-based training program created at HealthPartners Simulation Center for Patient Safety at Metropolitan State University in St. Paul, Minnesota. Patow discusses the background of simulation and its growing popularity, as well as the potential advantages of field-based simulation versus simulations conducted at more traditional simulation centers. A typical First 10 Minutes simulation is described. Preliminary results of the program are discussed, including improvements in the handling of pharmaceuticals and equipment, policy and protocol changes, and increased clinician confidence with the program. Several photographs of simulations in action are included in the article.
- 19. The ORION Statement: Guidelines for Transparent Reporting of Outbreak Reports and Intervention Studies of Nosocomial Infection.**
Stone S.P., Cooper B.S., Kibbler C.C., et al.
The Lancet. 2007 (Apr); 7:282-288.
In this review article the authors discuss the development of the Outbreak Reports and Intervention Studies of Nosocomial infection (ORION) statement. This statement, written in collaboration with professional societies, journal editors and researchers, was created to provide a set of guidelines for improving the quality of research and reporting on hospital-associated infection. Modeled on similar statements setting forth reporting standards for randomized controlled trials and non-randomized studies, the ORION statement emphasizes the importance of transparency in reporting and correct use of statistical methods. The statement consists of a 22-item checklist and summary table. Several items from the checklist are discussed in further detail. The authors note that the statement is to be considered as still in development and that feedback is encouraged. A table showing the 22-item checklist and a sample summary table are included.

20. What Medications Does Your Patient Take? Enhancing Medication Safety in the Outpatient Setting.

No Author.

Institute for Healthcare Improvement.

Available at:

<http://www.ihl.org/IHI/Topics/PatientSafety/MedicationSystems/ImprovementStories/WhatMedicationsDoesYourPatientTake.htm>

This article discusses the Ambulatory Medication Safety Project (AMSP), developed in 2006 in collaboration by the Massachusetts Coalition for the Prevention of Medical Errors and the Massachusetts Medical Society to improve medication safety. The project aims to improve patient-provider and provider-provider communication about medications by use of the Med List, a paper medication record designed to be maintained by patients and shared with providers on any occasion the patient receives medical care. Discussed in the article are ways in which Med List is being used and promoted, including a collaborative effort with Massachusetts pharmacies, suggestions for use and potential benefits of the tool, and the respective responsibilities of patients and providers in ensuring medication safety.

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