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**Literature search results**

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**Search details**

Best practice in interdepartmental, intra-hospital, inter-hospital or speciality-to-speciality referral

**Resources searched**

NHS Evidence; National Library for Health; TRIP Database; Cochrane Library; CINAHL; EMBASE; HMIC; Health Business Elite; MEDLINE; Google Scholar; Google Advanced Search

*Database search terms*: “intrahospital transfer”; intra-hospital transfer”; TRANSFER, INTRAHOSPITAL; “patient handover”; “patient handoff”; patient ADJ2 handover; patient ADJ2 handoff; patient ADJ2 hand-over; patient ADJ2 hand-off; “patient referral”; REFERRAL AND CONSULTATION; “interdepartmental handover”; “interdepartmental hand-over”; “interdepartmental transfer”; “inter-departmental transfer”; “interdepartmental handoff”; “departmental referral”; “interdepartmental referral”; “departmental transfer”; intrahospital; intra-hospital; interdepartment*; patient transition; “lateral transition”; “transition of care”; INTERDEPARTMENTAL RELATIONS; TRANSFER, INTRAHOSPITAL; RELOCATION; PATIENT TRANSFER; “patient transfer”; HOSPITAL-PHYSICIAN RELATIONS; INTERPROFESSIONAL RELATIONS; INTERDISCIPLINARY COMMUNICATION; PHYSICIANS-NURSE RELATIONS; inter; intra; interspeciality; inter-speciality; “between specialist”; “between department”; interdepartment*; outpatient*; OUTPATIENT CLINICS, HOSPITAL; OUTPATIENTS; specialist*; interface; between; hospital*; “within hospital”; interface ADJ2 hospital; interface ADJ2 department; inter-physician; interphysician; “between physician”; “between surgeon” “intersurgeon”; inter-surgeon*; “between doctor”.

*Google search string*: (interspeciality OR interdepartmental OR intrahospital OR interhospital) referral

**Summary**

There is some guidance on intrahospital as well as interhospital referral, most relating to other specialities; however I have included it because you may find it applicable to
cardiology. The published research also contains a lot of studies which you also may find useful. As you did not specify a particular aspect of referral, my search ended up being quite broad and so have included interhospital and intrahospital transport, and referral patterns as this may affect referral processes and decisions. Much of the research is not directly related to cardiology, but as with the guidelines, you may find the research dealing with other specialities, applicable, especially those about ICU, critical care and managing referral and transfer. For research directly relevant to cardiology see: 2; 6; 13; 14; 19; 26; 30; 31; 41 and 47.

### Guidelines

**Association of Anaesthetists of Great Britain and Ireland**

AAGBI safety guideline - interhospital transfer 2009

Recommendations for the safe transfer of patients with brain injury 2006

Before departure, case notes, X-rays, a referral letter and investigation reports should be collated and any required blood or blood products collected. The neurosciences unit should be contacted and informed of the estimated journey time.

**NHS Improvement**

A Guide to Commissioning Cardiac Surgical Services 2010

See page 5 – Referral Management Services and page 9 - Electronic referral system, inpatients and interhospital transfer patients

The rapid progress of patients through the system has been greatly facilitated by the adoption of common protocols for investigation and agreed timelines for referral. Many of the steps in the pathway are now overseen by specialist nurse practitioners rather than junior doctors and this has contributed greatly to the efficiency of the process.

Making Best Use of Inpatient Beds 2008


2. GPSI triage of cardiology referrals to effectively manage patients led to a 66% reduction in the referrals requiring cardiologist input in secondary care

Signposts to improving cardiac interhospital transfers 2008

This audit aimed to capture avoidable bed days, where patients remain in hospital longer than the recommended 72 hours for the ACS pathway or the proposed seven days for the cardiac surgery pathway, prior to referral for treatment.

Making Moves: results of a data audit review of service improvements in interhospital transfer arrangements for cardiac inpatients 2006

This document reviews the key findings from this important audit and analyses the main themes. We share examples of good practice that address common problems and may help meet the needs of patients, staff and the wider NHS.

Web based referral systems for interhospital transfers : a review and comparison of systems in English cardiac networks 2006

The Heart Improvement Programme shares the knowledge and experience from those networks which are developing and using web-based referral systems. Seven systems are identified and four networks were asked to share the ‘look and feel’ of their systems and the potential for scalability to other networks. This report contains a summary of these systems so that other networks considering a web-based solution can review the alternatives.

Success factors for reducing waiting times in fluoroscopy 2005

Includes case studies that have streamlined referral, and so may be applicable to
Royal College of Pathologists
Guidelines on inter-departmental dispatch and funding of histopathology referrals 2009

Royal College of Surgeons
Better Care for the Severely Injured 2000
1. Referral within 12 hours must be achieved for all patients with unstable injuries. Immediate care, transfer advice, and prioritisation of patients are the advantages of this early contact.

2. For patients with vascular injuries associated with acute limb ischaemia or altered perfusion the clinical diagnosis, referral and transfer to a vascular surgeon should occur within two hours of injury. Reperfusion must be achieved within six hours of injury.

3. Defined routes of referral and procedures must be in place to urgently involve head & neck surgeons and anaesthetists in the assessment of severe face- and head-injured patients.

National Burn Care Group
Standards and strategy for burn care: a review of burn care in the British Isles 2001
See Appendix 2: National Burn Referral Guidelines

Vascular Society
The Provision of Services for Patients with Vascular Disease 2009
It is no longer acceptable for emergency vascular care to be provided by generalists who do not have a specialised elective vascular practice, although they may be involved in triage of patients in hospitals with no vascular service before referral to a vascular unit. Similarly, all elective management (for both arterial and venous disease) should be undertaken by these same clinicians. Only by achieving this can all patients have an expectation of equality in clinical outcomes. These criteria must underpin the future strategies for vascular services within the NHS

Evidence-based reviews
None found.

Published research

1. Patient safety and image transfer between referring hospitals and neuroscience centres: could we do better?

Author(s): Crocker M, Cato-Addison WB, Pushpananthan S, Jones TL, Anderson J, Bell BA

Citation: British Journal of Neurosurgery, August 2010, vol./is. 24/4(391-5), 0268-8697;1360-046X (2010 Aug)

Publication Date: August 2010

Abstract: INTRODUCTION: District general hospital scanners have historically been linked to regional neuroscience units for specialist opinions on scans and to make decisions on transfer of patients requiring neurosurgical management. The implementation of digital picture archiving and communication systems (PACS) in all hospitals in the UK has disrupted these dedicated links and technical and information governance issues have delayed reprovision of electronic transfer of images for rapid expert decision making in this group of patients. We studied improvement in image transfer to acute neurosurgery units
over a 4-year period. METHODS: Four-year sequential review of national provision of image transfer facilities into neurosurgery units; observational study of delays associated with image transfer modalities in one representative tertiary referral centre. RESULTS: During the 4 years of study, all hospitals nationally have implemented digital PACS systems for image viewing. Remote image viewing facilities have gradually changed with dedicated image links being replaced by remote PACS access. However, a minority of referrals (12%) still require images to be physically transferred between hospitals using couriers for CD-ROMs. The detailed study within our own unit shows that this adds a mean delay of 5.8 h to decision making. CONCLUSIONS: Image transfer in neuroscience has been neglected following the shift to PACS servers. The recommendations of the 2004 Neuroscience Critical Care Report are unmet and patient safety is being threatened by a continued failure to implement a coordinated solution to this problem.

Source: MEDLINE

2. Pre-hospital triage for primary angioplasty: direct referral to the intervention center versus interhospital transport.

Author(s): Dieker HJ, Liem SS, El Aidi H, van Grunsven P, Aengevaeren WR, Brouwer MA, Verheugt FW

Citation: Jacc: Cardiovascular Interventions, July 2010, vol./is. 3/7(705-11), 1876-7605 (2010 Jul)

Publication Date: July 2010

Abstract: OBJECTIVES: We sought to study the impact of direct referral to an intervention center after pre-hospital diagnosis of ST-segment elevation myocardial infarction (STEMI) on treatment intervals and outcome. Copyright 2010 American College of Cardiology Foundation. Published by Elsevier Inc. All rights reserved. BACKGROUND: Primary angioplasty has become the preferred reperfusion strategy in STEMI. Ambulance diagnosis and direct referral to an intervention center is an attractive treatment option that has not been studied extensively. Copyright 2010 American College of Cardiology Foundation. Published by Elsevier Inc. All rights reserved. METHODS: Consecutive pre-hospital patients with STEMI, who were referred to our intervention center for primary angioplasty between 2005 and 2007, were studied. After pre-hospital diagnosis, patients were either directly transported to our center or referred through a nonintervention center. The catheterization laboratory was activated before transport to the intervention center. Copyright 2010 American College of Cardiology Foundation. Published by Elsevier Inc. All rights reserved. RESULTS: Of the 581 patients referred, 454 (78%) came with direct transport and 127 (22%) through a non-intervention center. Direct transport was associated with a higher proportion of patients treated within the 90-min time window of the STEMI guidelines: 82% versus 23% (p < 0.01). Patients directly transported had a significantly shorter median symptom-to-balloon time of 149 min (interquartile range: 118 to 197 min) versus 219 min (interquartile range: 178 to 315 min), p < 0.01, a higher post-procedural Thrombolysis In Myocardial Infarction (TIMI) flow grade 3 rate (92% vs. 84%; p = 0.03), and a lower 1-year mortality rate (7% vs. 13%; p = 0.03). Direct transport to the intervention center was independently associated with the symptom-to-balloon time, which in turn was an independent predictor of post-procedural TIMI flow grade 3, a strong prognosticator of outcome. Copyright 2010 American College of Cardiology Foundation. Published by Elsevier Inc. All rights reserved. CONCLUSIONS: After ambulance-based diagnosis of STEMI, direct transport to an intervention center with pre-hospital notification of the catheterization laboratory more than triples the proportion of patients treated within the time window of the guidelines. Time to balloon was an independent predictor of post-procedural TIMI flow grade 3, which underscores the need to reduce treatment delays. Copyright 2010 American College of Cardiology Foundation. Published by Elsevier Inc. All rights reserved.

Source: MEDLINE

3. The impact of referral pattern on the length of diagnosis in colorectal cancer patients with iron deficiency anaemia


Citation: Colorectal Disease, June 2010, vol./is. 12/(17), 1462-8910 (June 2010)
Publication Date: June 2010

Abstract: Background: Colorectal cancer is the second most common cancer in the UK with rising incidence. Early identification has been shown to improve prognosis and survival. Iron deficiency anaemia (IDA) is a well recognised cause of the disease and is often diagnosed in the primary care setting with subsequent referral to specialist units for investigations. This study aims to assess the impact of referral to hospital specialties and the time to diagnosis of colorectal cancer. Method: Following Ethics and Patient Information and Advisory Group (PIAG) approval, prospectively inputted data were collected from hospital laboratory, the cancer registry and The Health Improvement Network (THIN) general practice databases. Results: Between January 2000 to December 2006, 628 882 patients were identified from the THIN database who are over 40 years of age from 170 General Practitioner practices over the UK. A total of 578 (0.1%) patients with iron deficiency anaemia were identified who subsequently were found to have colorectal cancer. 166 (29%) and 135 (23%) patients were referred to medical and relevant surgical specialty (e.g. colorectal surgery and general surgery) respectively. The mean time to colorectal cancer diagnosis ranged from 6 months to 2 years between hospital specialties. Kaplan-Meier graph has demonstrated that the length to diagnosis was significantly longer in medical when compared to relevant surgical specialty (P = 0.0006). Conclusion: Early diagnosis of colorectal cancer is essential in order to improve survival and prognosis of patients. This study has demonstrated discrepancies in the length of diagnosis of the disease between medical and surgical specialties. Further study is required to assess the reasons for the delay in order to improve patient outcome.

Source: EMBASE


Author(s): Donker T, Wallinga J, Grundmann H

Citation: PLoS Computational Biology, March 2010, vol./is. 6/3(e1000715), 1553-734X;1553-7358 (2010 Mar)

Publication Date: March 2010

Abstract: Rates of hospital-acquired infections, such as methicillin-resistant Staphylococcus aureus (MRSA), are increasingly used as quality indicators for hospital hygiene. Alternatively, these rates may vary between hospitals, because hospitals differ in admission and referral of potentially colonized patients. We assessed if different referral patterns between hospitals in health care networks can influence rates of hospital-acquired infections like MRSA. We used the Dutch medical registration of 2004 to measure the connectedness between hospitals. This allowed us to reconstruct the network of hospitals in the Netherlands. We used mathematical models to assess the effect of different patient referral patterns on the potential spread of hospital-acquired infections between hospitals, and between categories of hospitals (University medical centers, top clinical hospitals and general hospitals). University hospitals have a higher number of shared patients than teaching or general hospitals, and are therefore more likely to be among the first to receive colonized patients. Moreover, as the network is directional towards university hospitals, they have a higher prevalence, even when infection control measures are equally effective in all hospitals. Patient referral patterns have a profound effect on the spread of health care-associated infections like hospital-acquired MRSA. The MRSA prevalence therefore differs between hospitals with the position of each hospital within the health care network. Any comparison of MRSA rates between hospitals, as a benchmark for hospital hygiene, should therefore take the position of a hospital within the network into account.

Source: MEDLINE

Full Text: Available in fulltext at National Library of Medicine


Author(s): Murphy SM, Whately K, Eadie PA, Orr DJ

Citation: Irish Journal of Medical Science, March 2010, vol./is. 179/1(123-5), 0021-
Publication Date: March 2010

Abstract: BACKGROUND: Trauma patients are a burden on resources in terms of personnel, operating time and bed occupancy. The plastic surgery trauma clinic was established in January 1999 and has been running Monday to Friday mornings from 9 am to 1 pm since its establishment.AIM: To analyse and compare referral patterns to the Plastic Surgery trauma clinic over three time periods.METHOD: Three time groups were analysed and compared: data from this initial study (2000-2001), a retrospective chart review (2002-2003), as well as a prospective study (2006-2007).RESULTS: Numbers of attendances at the Trauma Clinic seem to be increasing every year despite encouragement by letter after the initial study for local centres to treat many of the minor injuries not requiring plastic surgical skills.CONCLUSION: Admission rates have remained below 50% of the patients seen in the clinic; however 50% of patients required only local anaesthetic procedures performed in the clinic, or no treatment at all (27.6% of patients in 2003, 35.3% in 2006).

Source: MEDLINE

6. Transport of critically ill children on cardiopulmonary support assistance

Author(s): Eldadah M.K., Olsen M.C., Fakioglu H., DeCampli W.M.

Citation: Journal of Extra-Corporeal Technology, March 2010, vol./is. 42/1(80-83), 0022-1058 (March 2010)

Publication Date: March 2010

Abstract: Objective: To report two patients helicopter transport on mechanical cardiopulmonary support to a transplant center. Setting: Cardiac intensive care unit (CICU) and transport helicopter. Patients: A 9 kg and 22 kg children who suffer cardiac deterioration needing air transport on mechanical cardiopulmonary support. Interventions and Results: CPS was initiated to support these patients failing cardiac function. Transport on CPS of these two patients to a transplant institution was accomplished after determining that heart transplantation would be their more likely chance for recovery. Conclusion: A cardiac deterioration event that will lead to the need for heart transplantation can be acute and sudden sparing no time for early referral to a transplant center. It is necessary for heart centers to have a plan of action to provide inter-hospital transport on cardiopulmonary support (CPS). This protocol can involve transport by the refer ral institution, the receiving institution or a third institution.

Source: EMBASE


Author(s): Stanton M, Dunkin J

Citation: Professional Case Management, 01 November 2009, vol./is. 14/6(321-327), 19328087

Publication Date: 01 November 2009

Abstract: PURPOSE/OBJECTIVES: Case management activities were reviewed in a rural, nurse-managed, primary healthcare setting over 3 months. The purpose was to determine the specific case management tasks and how these functions related to, or enhanced, lateral transitions in care. The transition from outpatient to inpatient care implies a vertical transition of care, as the care at the hospital level is more complex than in a physician's office. Many times, patients will move between different providers and clinics in the outpatient (or inpatient) setting; these are considered lateral transitions. In a nurse-managed clinic, there are many referrals, hence many handoffs. As these patients move to and from these appointments and referrals, new tests are conducted and new medication may be ordered. To maintain a high quality of care, new therapies and medications must be integrated into the plan of care. PRIMARY PRACTICE SETTING(S): This study was conducted in a rural, nurse-managed, primary healthcare setting; however, the results are generalizable across many settings. FINDINGS/CONCLUSIONS: In this study, it was determined that the case managers were managing the transitions between the clinic and
other outpatient services, as well as managing and ordering the patient's medications and therapies. Approximately 45%-50% of case management functions involved either obtaining medication assistance for patients without funding or assisting patients with the ordering and procurement of essential medicines. Another 45% of the case manager's time was spent coordinating referrals to a wide variety of specialty clinics for diagnostic testing, obtaining appointments with community-based family practice physicians, or coordinating examinations for specialty physicians. IMPLICATIONS FOR CASE MANAGEMENT PRACTICE: Transitions in care have become a major focus in promoting patient safety. Case managers at the primary, secondary, and tertiary levels of care play a major role in making these transitions safe, whether these transitions are vertical or lateral. Safety issues come into play as patients move back and forth--or up and down--in the system, because providers do not always manage the safe handoff of the patient to other outpatient or inpatient services.

Source: CINAHL

8. Why the delay? An audit of referral time to arrival at a UK regional burns centre

Author(s): Maiti R., Rawlins J.M.

Citation: Burns, September 2009, vol./is. 35/(S15), 0305-4179 (September 2009)

Publication Date: September 2009

Abstract: Rationale: The infrastructure of burn care in the UK is changing. Interestingly however, there are no guidelines on the maximum time that is reasonable from referral to transfer of a patient to a regional burn centre (RBC). We have audited the time between referring Emergency Department and arrival at our Burn Centre, assessing geographical and non-geographical reasons for perceived delay. Methods: Data from 1st January to 30th June 2008 inclusive were gathered for all admissions to the Yorkshire Regional Burns Centre (RBC), Wakefield UK. Demographic details and information on duration of admission, times from injury to referral to arrival, total body surface area (TBSA) injury and outcome were collated. During this period there were 75 referrals to the RBC. Of these 5 were internal referrals, 21 were step-down transfers/not admitted/non-acute and there was incomplete information for 7 patients. Information for the remaining 42 referrals from other hospital Emergency Departments was therefore available for study. Results: There were 28 males (66.7%) and 14 females (33.3%) admitted with a mean age of 27.4 years (range 6 months to 87 years). Mean TBSA injury was 15.4% (range 1-90%). The closest hospital was 8.9 miles away and the furthest was 75.3 miles away. Mean time from injury to time of referral was 3.6 h (range 0.5-21.5 h). Mean time from referral to arrival at the RBC was 3.8h (range 0.5-15 h). Total time from injury to arrival at the RBC was 7.3 h (range 2.25-24h). Time from referral to arrival at the RBC was 1 h greater if the transfer was greater than 20 miles. Patients with a perceived delay in their arrival at the RBC 'lost time' at the initial decision to refer to the RBC, but more commonly after the referral to the RBC had been made. Reasons for the later delay included: uncertainties in the availability of a suitable bed at the RBC, requests for further assessment of the patients' airway/burn before making a decision to accept the patient, unavailability of ambulance/staff for patient transfer, and traffic congestion. Conclusion: The sooner a patient arrives at a specialist burn centre the sooner potentially life-saving decisions can be made regarding fluid resuscitation, ventilation, escharotomy and burn excision. Distance between hospitals clearly affects transfer time, however delays in the referral process and delay in transfer cannot be blamed on distance alone. We have highlighted several areas where 'time lost' should be (and could be) avoided. Given that the infrastructure of burn care in the UK is changing with potentially greater distances for patient transfer, addressing 'lost time' throughout the transfer process is vital for improving outcomes.

Source: EMBASE

9. Improving the safety of the intra-hospital transfer of acutely ill patients. Introducing the chester transfer score

Author(s): Singh S.R., Evans N., Jervis A.

Citation: Intensive Care Medicine, September 2009, vol./is. 35/(S298), 0342-4642 (September 2009)
**Publicaton Date:** September 2009

**Abstract:** INTRODUCTION: Adverse events related to inter-hospital transfer are well studied and are known to be relatively common [1]. However adverse events related to intra-hospital transfer are not well studied. We looked at the movement of acutely ill patients within the Countess of Chester Hospital - a 600 bed acute hospital in the UK. Analysis of critical incidents in our hospital suggested that the adverse events related to intra-hospital transfers may be both numerically and proportionately larger. The commonest reason that led to critical incidents related to intra-hospital transfer was that the escorting staff lacked the necessary knowledge and skill to match the complexity of the level of transfer. A critical care outreach team (CCOT) and the Early Warning Score - EWS [2] is well established in our hospital. The trigger score is 4 or more and this demands an immediate referral to the CCOT. The EWS is integrated into the vital signs chart and every adult in-patient is scored on a regular basis. Based on the EWS and on a number of key interventions we developed the Chester Transfer Score. This allowed staff in critical care and non-critical care areas to determine the appropriate level of expertise required for the transfer any individual patient. (Table presented). All potential transfers are categorised into four transfer score levels: 0, 1, 2 and 3 denoting increasing levels of complexity. The transfer score depends upon the EWS or the requirement for certain key interventions. For example, a patient with an EWS of less than 3 and not in need of any key interventions is given a transfer score of 0. This level of transfer can be carried out by non-trained staff. However if a patient is in need of any of the listed key interventions then the patient is scored on the basis of these regardless of the EWS. CONCLUSIONS: The Chester Transfer Score has been integrated into the transfer policy of our hospital and into a locally developed educational programme known as the Safe Transfer Of Patients (STOP) course. It has been in use for 2 years. We believe that this novel method has allowed us to classify the complexity of any transfer and in turn it helps, in particular ward based staff, to determine the appropriate level of escort. This along with the STOP course has led to an improvement in the safety of transfer of acutely ill patients within our hospital.

**Source:** EMBASE

**Full Text:**

Available in fulltext at [EBSCO Host](https://www.ebscohost.com/)

**10. Building communication between professionals at children's specialty hospitals and the medical home**

**Author(s):** Stille C.J., Frantz J., Vogel L.C., Lighter D.

**Citation:** Clinical Pediatrics, July 2009, vol./is. 48/6(661-673), 0009-9228 (July 2009)

**Publication Date:** July 2009

**Abstract:** Objective. Build a quality improvement (QI) intervention to improve communication between a children's specialty hospital and referring primary care providers (PCPs). Methods. A network of charitable children's hospitals identified improving communication as a systemwide goal. At one model hospital, we used qualitative telephone interviewing of hospital specialists and staff, and referring PCPs, to characterize the communication system and identify potential improvements. We identified potential high-impact areas through content analysis and developed a QI change package with hospital leadership. Results. Participants described inconsistent communication, with no systematic identification of PCPs. Families were the typical means of inter-physician communication. Multiple non-PCP referral sources were a major contributor to communication breakdowns. Respondents identified a system for identification and communication with PCPs as an essential first step. Conclusions. Systems for communication with PCPs are underdeveloped at a children's charitable specialty hospital. Straightforward changes could build an effective system that is generalizable to other hospitals.

**Source:** EMBASE

**Full Text:**

Available in fulltext at [Ovid](https://wwwovid.com/)

Available in fulltext at [EBSCO Host](https://www.ebscohost.com/)
11. **Factors associated with maternal death in women admitted to an intensive care unit with severe maternal morbidity.**

**Author(s):** Oliveira Neto AF, Parpinelli MA, Cecatti JG, Souza JP, Sousa MH

**Citation:** International Journal of Gynaecology & Obstetrics, June 2009, vol./is. 105/3(252-6), 0020-7292;1879-3479 (2009 Jun)

**Publication Date:** June 2009

**Abstract:** OBJECTIVE: To identify factors associated with maternal death among women with severe maternal morbidity.METHODS: A retrospective study of 673 women admitted to an obstetric intensive care unit was undertaken. The odds ratios (OR) and 95% confidence intervals (95% CI) were calculated for selected characteristics. The maternal mortality and severe maternal morbidity ratios were determined for groups of complications according to outcome (death or survival).RESULTS: The risk of maternal death was higher among adolescents (OR 3.3; 95% CI, 1.9-7) and patients referred from other hospitals (OR 9.8; 95% CI, 2.7-53.3). The severe maternal morbidity ratio was 46.6 per 1000 deliveries and the mortality:morbidity ratio 1:37.4. Obstetric complications led to 65.8% of admissions and 50% of maternal deaths. The number of interventions/procedures and total maximum sequential organ failure assessment score were higher in cases of death.CONCLUSION: The strong association between interhospital transfer and maternal death suggests delays in diagnosis, management, and referral. Adopting organ dysfunction-based criteria may contribute toward identifying the most severe cases.

**Source:** MEDLINE

12. **Transporting the critically ill**

**Author(s):** Martin T.

**Citation:** Surgery, May 2009, vol./is. 27/5(195-200), 0263-9319 (May 2009)

**Publication Date:** May 2009

**Abstract:** Over 10,000 intensive care patients are transferred each year in the UK. Of these, about 90% are accompanied by staff from the referring hospital. The escalating complexity of healthcare, the concentration of skills into specialized regional centres, and the relative lack of intensive care bed availability have all led to an increase in the frequency of transfer of critically ill patients between hospitals. The care delivered in the restricted environments encountered during patient transfer, whether it be within or between hospitals, should at least attempt to emulate the detailed attention provided in the hospital intensive care unit, and it is the responsibility of the transport team to provide this care outside the ICU. This is achieved by training staff, selecting appropriate equipment and detailed planning. The likelihood of success is increased by anticipating and preventing complications and avoiding hazards to both patient and the transfer team. This article provides an overview of the hazards, organization and planning of patient transfers, and highlights the importance of interdisciplinary teamwork, good communications and appropriate decision-making. It also examines the special situations encountered during the transfer or retrieval of patients with complex needs, such as those requiring intra-aortic balloon counterpulsation or extracorporeal membrane oxygenation, and discusses the challenges and opportunities that lie ahead. 2009.

**Source:** EMBASE

**Full Text:**

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Available in print at Grantham Hospital Staff Library

Available in print at Lincoln County Hospital Professional Library

Available in print at Louth County Hospital Medical Library

Available in print at Pilgrim Hospital Staff Library
13. Are all false positives alike? Tertiary versus referral center implications for selection of ST-elevation myocardial infarction patients undergoing primary percutaneous coronary interventions


Citation: Journal of the American College of Cardiology, 2009, vol./is. 53/10(A369), 0735-1097 (2009)

Abstract: Background: The mandated emphasis on achieving expeditious mechanical reperfusion for ST elevation myocardial infarction (STEMI) patients heavily depends on rapid and appropriate emergency department (ED) physician initiated patient selection. ECG misinterpretation or clinical misdiagnosis i.e. false positives, may lead to inappropriate patient selection for reperfusion therapy. Methods: Between 1/2005 and 3/2008, we examined clinical characteristics, ED demographics and ECG findings to define factors contributing to ED false positives among 814 presumed STEMI patients presenting directly to two tertiary primary percutaneous coronary intervention (PPCI) center ED's (n = 429) or nine referral ED's (n = 385) who underwent inter-hospital transfer for PPCI. ED physicians from both tertiary and referral centers directly activated the cath lab if STEMI was suspected. All patients with ischemic chest pain and ST elevation were triaged and underwent emergent cardiac cath. A false positive was defined as a) Absence of culprit vessel +/- elevated biomarkers b) Clinically evident alternate diagnosis Results: A total of (12%) 96 patients were classified as false positives and occurred more frequently within referral 17% (n = 67) as compared to tertiary 7% (n = 29) ED's (p = < 0.0001). The false positive rates were 21.5%, 16% and 6% among ED's with annual patient visits of <=10000/yr, 10000-30000/yr and >=30000/yr respectively (p = <=0.0001). Compared to STEMI-confirmed patients (n = 718), false positive patients had more history of bypass surgery (p = 0.007), prior PCI (0.0001) and in-hospital mortality (p = 0.01). Conclusion: Among presumed STEMI patients presenting to ED, a false positive diagnosis was established in 12% patients and tended to occur more commonly in lower volume referral EDs. Approximately 1/3rd of false positive patients had normal or no STE on initial ECG but had a higher prevalence of CAD. These data emphasize a continued need to improve patient selection for reperfusion therapy especially in lower volume EDs and requires cardiologists to maintain a high level awareness of alternative diagnosis in this high risk population.

Source: EMBASE

Full Text: Available in fulltext at Highwire Press

14. Direct presentation, field-referral, and interhospital transfer in a network-based system for primary percutaneous coronary intervention for ST-elevation myocardial infarction result in similar 1-year mortality


Citation: Journal of the American College of Cardiology, 2009, vol./is. 53/10(A57), 0735-1097 (2009)

Abstract: Background: Guidelines describe a systems-based first medical contact (FMC) to balloon time of 90 minutes as the goal for standard of care in primary percutaneous coronary intervention (PCI) for ST-elevation myocardial infarction (STEMI). In our regionalized STEMI network, infrastructural measures such as single-call activation of the catherization laboratory, short touchdown in the emergency department of referring hospitals, and direct ambulance transmission of an electrocardiogram (ECG) have been implemented. We investigated whether these measures would lead to guideline adherence and if route of presentation had an impact on 1-year mortality in an all-comer STEMI population. Methods: Data was prospectively acquired in a dedicated database. Between 2000 and 2006, 2507 patients with a complete dataset underwent primary PCI. Time of
symptom onset, FMC, call to activate the catheterization laboratory, arterial puncture (needle) and balloon inflation were recorded and time-intervals were calculated for patients presenting directly, through interhospital transfer or direct field-referral. Field-referral FMC was time of acquisition of ambulance ECG. Results: Time-intervals are medians in minutes with interquartile ranges, in order of direct presentation, interhospital transfer, and field referral. Time of symptom-onset to FMC was 90.5 (60-165), 90 (54-155), and 69 (33.5-128) (p < 0.001). FMC to call time was 17 (10-34), 22 (14-40), and 19 (10-36) (p < 0.001). Call-to-needle time was 40 (27-49), 50 (40-61), and 41 (30-50) (p < 0.001). Needle-to-balloon time was 12 (8-19), 13 (9-20), and 15 (11-23) (p < 0.001). Unadjusted 1-year mortality was 9.6% for direct presentation, 9.1% for interhospital transfer and 9.3% for field-referral (p = 0.95). The adjusted hazard ratios for route of presentation were 0.95 (p = 0.76, 95% CI 0.69-1.31) and 0.77 (p = 0.34, 95% CI 0.45-1.31), respectively. Conclusion: In STEMI patients, fast reperfusion was achieved in all routes of presentation and there was no significant difference in unadjusted and adjusted 1-year mortality. These results support primary PCI as the preferred treatment in STEMI if these infrastructural measures can be successfully implemented.

Source: EMBASE

Full Text:
Available in fulltext at Highwire Press

15. Comparison of the BD GeneOhm MRSA assay, broth enrichment culture and chromID MRSA for detection of methicillin-resistant Staphylococcus aureus from inter-hospital intensive care transfer patients
Author(s): Kleinschmidt S., Lidstone C., Henderson B., Faoagali J.
Citation: Healthcare Infection, 2009, vol./is. 14/3(89-93), 1835-5617 (2009)
Publication Date: 2009
Abstract: The objective of the present study was to compare the current chromogenic methicillin-resistant Staphylococcus aureus (MRSA) agar plate culture method with broth enrichment and the BD GeneOhm MRSA assay. Another key objective was to determine whether two admission surveillance swabs collected 1h apart would reliably detect MRSA colonisation in patients transferred to a tertiary referral intensive care unit from other hospitals compared with the current routine method of two samples collected 24h apart. In total, 593 swabs from 102 consecutive patients transferred from another hospital to the Princess Alexandra Hospital ICU were screened for the MRSA using nose and groin swabs collected on admission, 1h and 24h after admission. The non-selective broth enrichment step produced results in complete concordance with the existing method without an increase in sensitivity. The GeneOhm MRSA assay demonstrated 100% sensitivity, 97% specificity and 100% negative predictive values. The initial positive predictive value of this assay, however, was only 28%, largely due to the low prevalence of MRSA. Despite this low positive predictive value and because of the demonstrated 100% negative predictive value, the use of this assay could significantly improve turn-around times of surveillance screens in our laboratory by obviating the need for culture of over 90% of MRSA screening swabs. Positive polymerase chain reaction results require confirmation by culture, given that phenotypical characterisation of isolates is required for infection prevention and control. Comparison of the two screening collection timings in determining MRSA carriage could not be answered, due to insufficient positive results in the study group. Australian Infection Control Association 2009.

Source: EMBASE

16. The value of interhospital transfer and emergency MRI for suspected cauda equina syndrome: a 2-year retrospective study.
Author(s): Crocker M, Fraser G, Boyd E, Wilson J, Chitnavis BP, Thomas NW
Citation: Annals of the Royal College of Surgeons of England, September 2008, vol./is. 90/6(513-6), 0035-8843;1478-7083 (2008 Sep)
Publication Date: September 2008
Abstract: INTRODUCTION: The timing of surgery in cauda equina syndrome due to
prolapsed intervertebral disc remains controversial. Assessment of these patients requires magnetic resonance imaging (MRI), which is of limited availability outside normal working hours in the UK.

**PATIENTS AND METHODS:** We reviewed radiological results in all patients undergoing emergency MRI within our unit for suspected cauda equina syndrome over a 2-year period, and all subjects undergoing emergency lumbar discectomy for cauda equina syndrome within the same period. Outcome measures were: proportion of positive findings in symptomatic patients and proportion of patients referred with diagnostic MRI scans undergoing emergency surgery. We also assessed outcomes of patients having surgery for cauda equina syndrome in terms of improvement of pain, sensory and sphincter disturbance.

**RESULTS:** A total of 76 patients were transferred for assessment and 'on-call' MRI; 27 were subsequently operated upon. Only 5 proceeded to emergency discectomy that night (prior to next scheduled list). This may be due to delays in timing—from referral to acceptance, to arrival in the department, to diagnostic scan and to theatre. With the second group of patients, 43 had emergency discectomy for cauda equina syndrome during the study period. Of these, 6 patients had an out-of-hours MRI at our hospital for assessment (one patient living locally). Most surgically treated patients experienced improvement in their pain syndrome, with approximately two-thirds experiencing improvement in sensory and sphincter disturbance.

**CONCLUSIONS:** These data support a policy of advising MRI scan for cauda equina syndrome at the earliest opportunity within the next 24 h in the referring hospital, rather than emergency transfer for diagnostic imaging which has a relatively low yield in terms of patients operated on as an emergency.

**Source:** MEDLINE

**Full Text:**
Available in fulltext at [Ovid](#)
Available in fulltext at [National Library of Medicine](#)
Available in print at [Lincoln County Hospital Professional Library](#)

17. **Gaps in pediatric clinician communication and opportunities for improvement.**

**Author(s):** Woods DM, Holl JL, Angst DB, Echiverri SC, Johnson D, Soglin DF, Srinivasan G, Amsden LB, Barnathan J, Hason T, Lamkin L, Weiss KB

**Citation:** Journal for Healthcare Quality: Promoting Excellence in Healthcare, 01 September 2008, vol./is. 30/5(43-54), 10622551

**Publication Date:** 01 September 2008

**Abstract:** Teamwork and good communication are central to the provision of high-quality care. A standardized focus-group protocol was used. Analysis assessed emergent themes of patient safety–related effective and problematic clinician communication. Sixty-three focus groups were conducted with clinicians from five Chicago Pediatric Patient Safety Consortium hospitals. Effective and problematic clinician-to-clinician communication themes were described in all focus groups and at each participating hospital. Probable communication contexts included the communication process for orders, consultations, acuity assessment, management of surgical and medical patients, and the discharge process. Organizational policies and systems leading to patient safety risk included a lack of clear responsibilities and expectations for clinicians and for clinical communication, as well as a lack of a clear chain of responsibility for communication when hierarchical communication barriers affected safe patient care. Results of this investigation highlighted gaps in pediatric clinician communication and opportunities for improvement.

**Source:** CINAHL

**Full Text:**
Available in fulltext at [EBSCO Host](#)

18. **Projects improve patient flow, shorten LOS: Six Sigma initiatives aim to improve processes.**

**Citation:** Hospital Case Management, 01 August 2008, vol./is. 16/8(121-122), 10870652

**Publication Date:** 01 August 2008
19. Safety of interhospital transport of cardiac patients and the need for medical escorts.

Author(s): Lees M, Elcock M

Citation: Emergency Medicine Australasia, February 2008, vol./is. 20/1(23-31), 1742-6723;1742-6723 (2008 Feb)

Publication Date: February 2008

Abstract: OBJECTIVE: To review the safety of the current retrieval service procedures and identify factors associated with the need for a medical escort. METHODS: Detailed retrospective chart review of the records of patients with confirmed or presumed cardiac disorders transferred for acute care by the Townsville Hospital Emergency Department retrieval service between June 2003 and December 2004. RESULTS: A total of 555 charts were reviewed. During transport, 11 complications and 111 interventions occurred. In total, 414 patients required no intervention, 96 required nurse or paramedic care, and 45 needed a medical escort. Only one patient determined to need a doctor was not accompanied by one; however, 183 patients were accompanied by a doctor when no need was identified. A logistic regression model was applied to 463 patients after excluding intubated patients and those with any missing observation data. This found that the following variables were significantly predictive of events during transport requiring a doctor to be present: myocardial infarction (OR 2.48; P = 0.016; 95% CI 1.2-5.1), having received lysis (OR 3.54; P = 0.004; 95% CI 1.59-7.92), on an infusion (OR 5.06; P < 0.001; 95% CI 2.37-10.82) or history of cardiac arrest (OR 7.77; P < 0.001; 95% CI 2.9-20.77). CONCLUSION: Transport of cardiac patients by the Townsville Hospital Emergency Department retrieval service were safely staffed and performed, guided by the expert decision making and clinical support of the clinical coordinators. Patients with a provisional diagnosis at the time of referral of myocardial infarction, a history of receiving lysis or cardiac arrest, or on a drug infusion were more likely to require the expertise of a doctor during transport.

20. Impact of a Hospital Self-management Project on patient referral from local hospitals: Data analysis of a medical center

Author(s): Ho C.-H., Huang C.-C., Chang L.-Y.

Citation: Mid-Taiwan Journal of Medicine, September 2007, vol./is. 12/3(151-156), 1029-3507 (Sep 2007)

Publication Date: September 2007

Abstract: Purpose. The Hospital Self-management Project proposed by the Bureau of National Health Insurance may influence the direction of management in local hospitals. This study analyzed the possible impact that the Hospital Self-management Project may have on patient referral from local hospitals. Methods. Data regarding inter-hospital transfers were gathered from the China Medical University Hospital Department of Community Medicine transfer database. Data regarding patient transfers from local hospitals to our Emergency Department (ED) were included. Transfers from local hospitals that did not join the project were excluded from our analysis. Patient numbers, age, ratio of triage, admission to ICU or ward, use of high-cost examinations, and total ED expenses incurred from July to December, 2003 and 2004 were compared. Results. The total number of referred patients who met the study criteria was 1281 in 2003 and 1456 in 2004. Patients who were classified into triage category I and II decreased by 1.4% from 2003 to 2004, while those who were admitted to the ICU or required high-cost examinations increased by
5.3% and 3.6%, respectively. The mean total ED expenses incurred by the study patients was NT$6830 in 2003 and NT$7128 in 2004. Statistical analysis revealed a significant increase in patient age and the ratio of ICU admission, but a significant decrease in the ratio of ward admission after the project. Conclusion. No marked patient dumping by local hospitals was detected after the Hospital Self-management Project was implemented. Transfers of critically-ill patients who need intensive care are not influenced by this project.

**Source:** EMBASE

21. **Referrals to chaplains: The role of religion and spirituality in healthcare settings**

**Author(s):** Galek K., Flannelly K.J., Koenig H.G., Fogg S.L.

**Citation:** Mental Health, Religion and Culture, July 2007, vol./is. 10/4(363-377), 1367-4676;1469-9737 (Jul 2007)

**Publication Date:** July 2007

**Abstract:** Given the increasing importance of understanding how healthcare workers interact with the principal person designated to meet patients' spiritual needs - the chaplain - the current study provides an inter-disciplinary perspective of the role of chaplains (and spirituality) in patients' emotional, physical, and spiritual health. The study surveyed a randomly selected national sample of hospital directors in four disciplines: medicine (n = 278), nursing (n = 230), social services (n = 229), and pastoral care (n = 470). Participants rated the importance of referring patients to chaplains for four different areas: pain/depression, anxiety/anger, treatment issues, and loss/death/meaning. Results revealed significant differences in referral patterns for type of hospital, professional discipline, the hospital's religious affiliation, and self-reported spirituality. Results are discussed in relation to historical views of spirituality and religion within the different disciplines.

**Source:** EMBASE

**Full Text:**

Available in fulltext at [EBSCO Host](https://www.ebscohost.com)

22. **Effect of interhospital transfer on resource utilization and outcomes at a tertiary care referral center**

**Author(s):** Golestanian E., Scruggs J.E., Gangnon R.E., Mak R.P., Wood K.E.

**Citation:** Critical Care Medicine, June 2007, vol./is. 35/6(1470-1476), 0090-3493 (Jun 2007)

**Publication Date:** June 2007

**Abstract:** OBJECTIVE: Mortality and length of stay are two outcome variables commonly used as benchmarks in rating the performance of medical centers. Acceptance of transfer patients has been shown to affect both outcomes and the costs of health care. Our objective was to compare observed and predicted lengths of stay, observed and predicted mortality, and resource consumption between patients directly admitted and those transferred to the intensive care unit (ICU) of a large academic medical center. DESIGN: Observational cohort study. SETTING: Mixed medical/surgical ICU of a university hospital. PATIENTS: A total of 4,569 consecutive patients admitted to a tertiary care ICU from April 1, 1997, to March 30, 2000. INTERVENTIONS: None. MEASUREMENTS: Acute Physiology and Chronic Health Evaluation (APACHE) III score, actual and predicted ICU and hospital lengths of stay, actual and predicted ICU and hospital mortality, and costs per admission. MAIN RESULTS: Crude comparison of directly admitted and transfer patients revealed that transfer patients had significantly higher APACHE III scores (mean, 60.5 vs. 49.7, p < .001), ICU mortality (14% vs. 8%, p < .001), and hospital mortality (22% vs. 14%, p < .001). Transfer patients also had longer ICU lengths of stay (mean, 6.0 vs. 3.8 days, p < .001) and hospital lengths of stay (mean, 20 vs. 15.9 days, p < .001). Stratified by disease severity using the APACHE III model, there was no difference in either ICU or hospital mortality between the two populations. However, in the transfer group with the lowest predicted mortality of 0-20%, ICU and hospital lengths of stay were significantly higher. In crude cost analysis, transfer patients' costs were $9,600 higher per ICU.
admission compared with nontransfer patients (95% confidence interval, $6,000-$13,400). Risk stratification revealed that the higher per-patient cost was entirely confined to the transfer patients with the lowest predicted mortality. CONCLUSIONS: Patients transferred to a tertiary care ICU are generally more severely ill and consume more resources. However, they have similar adjusted mortality outcomes when compared with directly admitted patients. The difference in resource consumption is mainly attributable to the group of patients in the lowest predicted risk bracket. 2007 Lippincott Williams & Wilkins, Inc.

Source: EMBASE

Full Text:
Available in fulltext at Ovid

Author(s): Green AL, Williams A
Citation: Intensive & Critical Care Nursing, 01 October 2006, vol./is. 22/5(274-282), 09643397
Publication Date: 01 October 2006
Abstract: Objectives
Source: CINAHL

Full Text:
Available in print at Lincoln County Hospital Professional Library

24. Pattern of dermatological referrals in RIMS Hospital
Author(s): Nandakishore Th., Arunkumari A.
Citation: JMS - Journal of Medical Society, May 2006, vol./is. 20/2(71-74), 0972-4958 (May 2006)
Publication Date: May 2006
Abstract: Objective: To assess the nature of dermatologic conditions and awareness of dermatological conditions among various clinical specialties requiring dermatologic services and to estimate the value of dermatology consultations in terms of diagnosis and improvement in patient care. Method: A total number of 281 indoor patients referral for dermatologic services in Regional Institute of Medical Sciences (RIMS) Hospital were prospectively studied during a 41/2 year period. The demographic details, specialties requiring consultation, provisional diagnosis and dermatologic investigations were recorded. Results: The number of referral cases accounted for 0.25% of total in-patients. Dermatologic conditions found in the referred patients were mainly infections (38.8%), dermatitis (21.4%) and drug related (8.9%). Medicine department required the largest number of consultations (43%). The awareness level of dermatologic conditions among the referring specialties were very low. In the majority of cases the dermatologic diagnoses were frequently missed even for common conditions. Dermatologic consultations changed the dermatologic diagnosis and treatment in more than 75% of the patients. Conclusion: The referral rate for dermatologic consultations and the ability of referring specialties to make proper dermatologic diagnosis were very minimal. It is imperative to upgrade dermatologic training amongst medical students to enhance dermatologic knowledge and skill. Timely interdepartmental consultations will improve the quality of overall patient care services.
Source: EMBASE

25. Interhospital transfers of patients with surgical emergencies: areas for improvement.
Author(s): Wong K, Levy RD
Citation: Australian Journal of Rural Health, October 2005, vol./is. 13/5(290-4), 1038-5282;1038-5282 (2005 Oct)
Publication Date: October 2005

Abstract: OBJECTIVE: To review mortality associated with interhospital transfers of patients with surgical emergencies from rural and peripheral metropolitan areas. DESIGN: A retrospective case note review. SETTING: All hospitals within an area health service including metropolitan and rural hospitals. SUBJECTS: All patients with a surgical emergency who died in hospital after interhospital transfer within an area health service. MAIN OUTCOME MEASURES: Factors associated with death and interhospital transfer. RESULTS: In total, 22 patients were identified. The mean age was 77 years. Thirty-six per cent of patients were assessed by a surgeon prior to transfer. The mean time taken for transfer was five hours. Ten patients were physiologically unstable prior to transfer. No medical escort accompanied these patients. Four patients deteriorated during the transport process. Seventy-three per cent of patients arrived out of normal working hours. Fifty per cent of patients required an operation within 24 hours of arrival. All of these patients had significant medical co-morbidities. Seventy-two per cent of these operations were performed out of hours as an emergency case. Twenty-three per cent did not receive any operative intervention or intensive care admission at the tertiary referral centre. Forty-one per cent of deaths were related to peritonitis and intra-abdominal soiling. CONCLUSIONS: Hospital systemic issues associated with mortality included extensive time delays in transfers, an inadequate transport process and frequent out-of-hours emergency operations. Patient features related to mortality included advanced age, significant medical co-morbidity and surgical pathology with a poor prognosis. Improvements concerning interhospital transfers of patients should address both systemic and patient issues.

Source: MEDLINE

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Available in fulltext at EBSCO Host

26. Quality indicators in cardiovascular care: The case for cardiac rehabilitation

Author(s): Thomas R.J., Witt B.J., Lopez-Jimenez F., King M.L., Squires R.W.

Citation: Journal of Cardiopulmonary Rehabilitation, September 2005, vol./is. 25/5(249-256), 0883-9212 (Sep 2005)

Publication Date: September 2005

Abstract: The drive to improve the quality of healthcare is gaining in momentum. Increasingly, third party payors and other national healthcare organizations are driving this trend by publishing evidence-based practice guidelines, selecting quality of care indicators based on standard criteria, and tracking quality of care "report cards" that compare performance by medical care providers. While referral of patients to a CR program is included in published practice guidelines for the care of persons with CAD, current panels of performance measures do not include CR. However, based on the relevance, soundness, and feasibility of the evidence described in this article, the use of CR services should be included as a standard quality of care indicator for appropriate patients with CAD. The case for such action is presently strong and could be strengthened further by: (1) increasing the level of evidence for CR even further with more multicentered, randomized, controlled trials of CR, particularly in understudied subgroups (women, minorities, the elderly, and in persons undergoing percutaneous intervention or valve surgery), (2) developing feasible methods for assessing the referral and enrollment "bridge" between hospitalization and outpatient CR programs, and (3) continuing to define, promote, and certify standards for the scope and quality of care provided by CR programs. Further work is needed to define the most appropriate performance measure for CR utilization based on currently available evidence.

Source: EMBASE

27. Quality of interhospital transport of critically ill patients: a prospective audit

Author(s): Ligtenberg JJ, Arnold LG, Stienstra Y, van der Werf TS, Meertens JH, Tulleken
INTRODUCTION: The aim of transferring a critically ill patient to the intensive care unit (ICU) of a tertiary referral centre is to improve prognosis. The transport itself must be as safe as possible and should not pose additional risks. We performed a prospective audit of the quality of interhospital transports to our university hospital-based medical ICU.

METHODS: Transfers were undertaken using standard ambulances. On departure and immediately after arrival, the following data were collected: blood pressure, heart rate, body temperature, oxygen saturation, arterial blood gas analysis, serum lactic acid, plasma haemoglobin concentration, blood glucose, mechanical ventilation settings, use of vasopressor/inotropic drugs, and presence of venous and arterial catheters. Ambulance personnel completed forms describing haemodynamic and ventilatory data during transport. Data were collected by our research nurse and analyzed.

RESULTS: A total of 100 consecutive transfers of ICU patients over a 14-month period were evaluated. Sixty-five per cent of patients were mechanically ventilated; 38% were on vasoactive drugs. Thirty-seven per cent exhibited an increased number of vital variables beyond predefined thresholds after transport compared with before transport; 34% had an equal number; and 29% had a lower number of vital variables beyond thresholds after transport. The distance of transport did not correlate with the condition on arrival. Six patients died within 24 hours after arrival; vital variables in these patients were not significantly different from those in patients who survived the first 24 hours. ICU mortality was 27%. Adverse events occurred in 34% of transfers; in 50% of these transports, pretransport recommendations given by the intensivist of our ICU were ignored. Approximately 30% of events may be attributed to technical problems.

CONCLUSION: On aggregate, the quality of transport in our catchment area carried out using standard ambulances appeared to be satisfactory. However, examination of the data in greater detail revealed a number of preventable events. Further improvement must be achieved by better communication between referring and receiving hospitals, and by strict adherence to checklists and to published protocols. Patients transported between ICUs are still critically ill and should be treated as such.

Source: MEDLINE

Full Text:
Available in selected fulltext at BioMedCentral
Available in fulltext at National Library of Medicine


Author(s): Reid C, Moorthy C, Forshaw K

Citation: Emergency Medicine Journal, 01 May 2005, vol./is. 22/5(355-358), 14720205

Publication Date: 01 May 2005

Abstract: OBJECTIVES: To develop a standard for safe patient referral from emergency medicine (EM) staff to hospital inpatient specialities; to audit adherence to that standard, and from this audit, to identify potential risk areas in this aspect of patient care; to make recommendations for reducing such risks; and to implement those recommendations. METHOD: A standard was introduced and practice was compared to that standard using a telephone questionnaire. RESULTS: Many problems arising at referral were identified. From these, recommendations were made for improvements. At the base hospital, those recommendations were implemented. These potential pitfalls are highlighted, together with strategies for improving safe handover of patient care. The discussion includes a review of the literature on safe handovers, which underpins both the importance of this subject and our findings and recommendations. CONCLUSIONS: Referral is an important skill for many doctors, particularly those in EM. It requires teaching and practice. The corollary to this is that education in this arena is also essential for those receiving referrals, to ensure smooth communication and safe systems of handover for patients.

Source: CINAHL
29. Challenges in arranging interhospital transfers from a small regional hospital: an observational study.

Author(s): Craig SS

Citation: Emergency Medicine Australasia, April 2005, vol./is. 17/2(124-31), 1742-6731;1742-6723 (2005 Apr)

Abstract: OBJECTIVE: To describe the process of interhospital transfer from a small regional hospital ED.METHODS: Prospective observational case series of patients transferred from the ED of West Gippsland Hospital (WGH), Victoria from February to August 2003. Outcome measures were expressed as the number of phone calls required to facilitate interhospital transfer, the time taken for a proposed transfer to be accepted and the total time a transferred patient spent in the ED.RESULTS: Eighty-one of 129 transferred patients had all data available. Those with missing data had similar ED length of stays, and were of similar age and acuity to those with complete data available. Mean (95% CI) values for the study population were number of phone calls: 4.7 (95% CI 3.96-5.43); time to transfer acceptance: 56.7 min (95% CI 19.1-94.8 min); and total time in ED: 307 min (95% CI 32.9-372.6 min). Men (P = 0.01), older patients (P = 0.02) and those for whom a centralized referral service were consulted (P = 0.006) were more likely to require four or more phone calls to facilitate transfer. The time until a transfer was accepted was more likely to be longer than an hour for patients who were transferred to critical care areas (P = 0.02) and those for whom a centralized referral service was consulted (P = 0.002). Patients referred to another ED spent less time in WGH ED than other transferred patients.CONCLUSION: There is wide variation in the time taken and the number of phone calls to arrange an interhospital transfer, with some patient groups requiring more effort to organize a transfer.

Source: MEDLINE

Full Text:
Available in fulltext at EBSCO Host

30. New outpatient referrals to a tertiary paediatric cardiac centre: evidence of increasing workload and evolving patterns of referral.

Author(s): Murugan SJ, Thomson J, Parsons JM, Dickinson DF, Blackburn ME, Gibbs JL

Citation: Cardiology in the Young, February 2005, vol./is. 15/1(43-6), 1047-9511;1047-9511 (2005 Feb)

Abstract: OBJECTIVES: To assess the volume and range of diagnosis in new patients referred to paediatric cardiac outpatient clinics.METHODS: Data was collected prospectively, using a proforma completed at all outpatient clinics over a period of three months.RESULTS: There were 526 new referrals, representing an increase of almost one-fifth compared to 5 years ago. Of the referrals, 78 percent came from hospital doctors, and 22 percent from general practitioners, with 221 of those referred being infants. A heart murmur was the most common reason for referral, representing almost two-thirds of cases. In 372 patients referred (71 percent), the heart was discovered to be structurally normal. The proportion of patients with normal hearts referred by general practitioners and hospital doctors were 81 percent, and 68 percent, respectively (p less than 0.004). There was considerable variation in the pattern of referral between doctors working in different hospitals.CONCLUSION: New referrals to centres dealing with congenital cardiac malformations are increasing alarmingly, with the majority of the children referred having normal hearts. This increase in demand for specialist services has important implications.
Management and outcomes of patients transferred for rescue coronary angioplasty in acute myocardial infarction

Author(s): Steffenino G., Baralis G., Dellavalle A., La Scala E., Meinardi F., Margaria F., Goletto S., Rolfo F.

Citation: Italian heart journal : official journal of the Italian Federation of Cardiology, October 2004, vol./is. 5/10(739-745), 1129-471X (Oct 2004)

Publication Date: October 2004

Abstract: BACKGROUND: Rescue coronary angioplasty (PTCA), though recommended by the guidelines, is not regularly performed after failed lysis in patients with ST-elevation acute myocardial infarction (AMI), and data from large contemporary studies are not available. The outcomes of a recent series of consecutive patients in our Center are presented. METHODS: Between August 2000 and November 2003, 270 patients with AMI < 12 hours were referred to our cath lab for emergency PTCA: 117 (43%) for rescue PTCA after failed lysis, and 153 for primary or facilitated PTCA. The baseline, procedural and outcome data of all patients were prospectively collected, analyzed on an "intention-to-treat" basis and compared. Cineangiographic data were reviewed by three angiographers who were unaware of the clinical data. RESULTS: No significant differences were found between rescue PTCA and primary/facilitated PTCA patients as to: age, female gender, diabetes, hypertension, previous AMI, time from pain onset to the first emergency room admission, heart rate at admission, systolic blood pressure, number of leads with ST-segment elevation, total ST-segment deviation, collateral flow to the infarct-related artery, initial TIMI 2-3 flow, and three-vessel disease. Patients with rescue PTCA, as compared to primary/facilitated PTCA, had a longer time from pain onset to the cath lab (336 +/- 196 vs 229 +/- 155 min, p = 0.0001) and more frequently had an anterior AMI (52 vs 38%, p = 0.027), a higher Killip class (1.5 +/- 0.98 vs 1.26 +/- 0.7, p = 0.02), shock (11 vs 5%, p = 0.073), and intra-aortic balloon pump use (17 vs 8%, p = 0.048); fewer patients were in Killip class 1 (74 vs 85%, p = 0.043). PTCA was performed immediately in 78 vs 95% of patients (p = 0.0001); 8 vs 3 patients had PTCA of the infarct-related artery and 8 vs 1 had bypass surgery later during hospitalization. Patients with rescue PTCA, as compared to primary/facilitated PTCA, had a final TIMI 3 flow in 62 vs 76% of cases (p = 0.017), > or = 70% ST-segment resolution in 36 vs 50% (p = 0.086), and both of the latter in 24 vs 45% (p = 0.006); the overall hospital mortality was 12 vs 6.5%, and 5.8 vs 3.4% when patients in shock on admission were not considered; reinfarction and stroke occurred in 0.9 vs 1.3% and in 2.6 vs 0% of the patients respectively. CONCLUSIONS: Due to referral, rescue PTCA patients were admitted to the cath lab later after the onset of infarction, and had a higher risk profile, as compared to primary/facilitated PTCA patients; both recanalization and reperfusion were less satisfactory, as were the outcomes. Thrombolysis is often ineffective but, as long as it remains a widespread treatment, efforts should be made to improve reperfusion and survival in these patients, possibly by an earlier referral for rescue PTCA.

Source: EMBASE

Metropolitan audit of appropriate referrals refused admission to intensive care

Author(s): Duke G.J.

Citation: Anaesthesia and Intensive Care, October 2004, vol./is. 32/5(702-706), 0310-057X (Oct 2004)

Publication Date: October 2004

Abstract: We undertook a three-month prospective cohort study of critically ill adult patients referred to the Intensive Care Units (ICUs) of public hospitals in metropolitan Melbourne and Geelong, Victoria. The aim was to ascertain the prevalence and immediate...
consequences of "refused" admission amongst patients appropriately referred to the ICU of first choice. Between August 1 and October 31, 1999, 10 (out of 12) public hospitals collected data. Three thousand and four patients were referred to these ICUs, and "refusals" were reported by all hospitals. A total of 282 (9.4%) patients were unable to be admitted to the ICU of first choice, giving a rate of 3.1 "refusals" per day. The reasons for "refusal" were limited staffing (52%) and shortage of beds (46%). Acute inter-hospital transfer (1.7 per day) was the most common immediate triage outcome (57%). These rates are higher than previously reported figures. We conclude that refused admission to the ICU of first choice, and acute inter-hospital transfer in this region and time period, were common events.

Source: EMBASE

33. Bridging the gap between the intensive care unit and general wards--the ICU liaison nurse.

Author(s): Green A, Edmonds L
Citation: Intensive & Critical Care Nursing, 01 June 2004, vol./is. 20/3(133-143), 09643397
Publication Date: 01 June 2004
Abstract: The acute care system in our public hospitals has seen an increase in acuity for multiday patients with associated pressure on access to the intensive care unit (ICU) beds for both elective and emergency patients. When an ICU bed has not been available at this hospital, it has resulted in elective surgery being cancelled and/or emergency patients requiring an ICU admission being transferred to other hospitals. Apart from the problems either of these situations can cause to patients and their families, both government and hospital managements expect that access to an ICU (or other) bed will be available for patients in our community who require this level of care. To maximise access to our ICU beds it was necessary to ensure that length of stay (LOS) in ICU was kept to the minimum required for each individual patient and that re-admission rates to ICU for preventable complications were reduced. This paper relates our experience of developing and introducing an advanced practice nursing position (the ICU Liaison Nurse) in 1998, to oversee the transition of patients discharged from ICU to the general wards. Between 1997 and 2002 with the development of the ICU Liaison Nurse (ICU LN) post, medical readmissions to ICU were reduced from 2.3 to 0.5%. It is now 5 years since the position was introduced and the role has evolved over this time so that today the ICU LN not only bridges the gap between ICU and ward-based care, but when necessary can be involved in the care of patients on the ward whose condition has deteriorated to the point where transfer into ICU may be necessary.

Source: CINAHL
Full Text:
Available in print at Lincoln County Hospital Professional Library
Available in print at Pilgrim Hospital Staff Library

34. Assessment and management of inpatients with acute diabetes-related foot complications: room for improvement.

Author(s): Lawrence SM, Wraight PR, Campbell DA, Colman PG
Citation: Internal Medicine Journal, May 2004, vol./is. 34/5(229-33), 1444-0903;1444-0903 (2004 May)
Publication Date: May 2004
Abstract: BACKGROUND: Australian data are currently lacking regarding management guidance, resource usage and outcomes of patients with diabetes requiring hospitalization for management of acute foot complications.AIMS: The aims of the present study were to review hospital admissions for diabetes-related foot complications and current assessment and management of these complications, and to formulate recommendations for future models of care.METHODS: A retrospective review of patient records from 1 July 1999 to 30 June 2000 was carried out. Recorded assessment, investigations, management, amputation rates, referral rates and length of hospital stay were reviewed.RESULTS: There were 69 admission episodes in 12 months (total patients n = 50). The mean age was 64
years, with 44 male patients (64%) and 25 female patients (36%). The mean diabetes duration was 11 years (range <1-47 years). The majority of patients had type 2 diabetes. Assessment for known risk factors for ulceration and amputation was variable with history of previous ulcer/amputation recorded for 24 (35%) admissions, results of neurological assessment recorded for 11 (16%) and assessment of pedal pulses documented for 51 (74%). Glycated haemoglobin was performed during 35 (51%) admissions. Patients were admitted under one of 11 different inpatient units and the average interdepartmental referral rate was one referral per patient per admission. The average length of stay was 17 days, with total bed days occupied 1163 days. Minor amputation was performed in 25 (36%) cases and major amputation in 8 (11%). CONCLUSIONS: Clinical assessment, investigation and management of this population are highly variable. This has a significant impact on the final clinical outcome, and changes to current processes are required to overcome the substantial burden of diabetic foot disease.

Source: MEDLINE

Full Text:
Available in fulltext at EBSCO Host

35. Chlamydia trachomatis infection in a colposcopy unit: an audit of a fast track referral system for infected patients to a genitourinary medicine department and a survey of patients’ demography, clinical findings and partner details.

Author(s): Blackwell A, Linton D, Emery S, Calvert J

Citation: International Journal of STD & AIDS, October 2003, vol./is. 14/10(661-4), 0956-4624;0956-4624 (2003 Oct)

Publication Date: October 2003

Abstract: We had previously shown that screening and treating patients for Chlamydia trachomatis prior to termination of pregnancy significantly reduces postoperative morbidity. Our success led us to consider screening women attending our colposcopy unit and this was introduced in 1998. However, it became apparent that a formal protocol was needed for managing women who had positive results to ensure that all patients and their partners were adequately treated. An interdepartmental protocol was devised for fast track referral of infected patients to the Genitourinary Medicine (GUM) clinic Health Advisor who arranged immediate treatment and partner notification. A re-audit, presented here, has shown that the introduction of the protocol has resulted in all infected patients receiving adequate treatment and partner notification with minimal use of doctor time or disruption of routine GUM services. We suggest that our system is effective and could be extended to other clinics where chlamydia screening is carried out.

Source: MEDLINE

Full Text:
Available in fulltext at EBSCO Host

Available in print at Pilgrim Hospital Staff Library

36. Prognostic factors for mortality following interhospital transfers to the medical intensive care unit of a tertiary referral center.

Author(s): Durairaj L, Will JG, Torner JC, Doebbeling BN

Citation: Critical Care Medicine, July 2003, vol./is. 31/7(1981-6), 0090-3493;0090-3493 (2003 Jul)

Publication Date: July 2003

Abstract: OBJECTIVE: To describe characteristics of patients transferred from outside hospitals to a tertiary medical intensive care unit and to identify patient-level and system-level prognostic factors. DESIGN: Retrospective cohort study. SETTING: Tertiary university hospital. PATIENTS: We studied 3,347 patients who were transferred to the medical intensive care unit from outside hospitals from January 1990 through September 1999. INTERVENTIONS: None. MEASUREMENTS AND MAIN RESULTS: Data collected included patient demographics, insurance type, discharge diagnoses, length of stay, mortality, admitting service, and distance traveled. The Charlson Comorbidity Score was
used to adjust for comorbidity and the diagnostic related group risk level for risk of adverse outcome. Multivariate logistic models of early mortality (<72 hrs) and overall hospital mortality rate were developed. The most common major diagnostic categories included neurologic (10%), respiratory (10%), digestive diseases (10%), and drug overdose (10%). Most patients (70%) were transferred from >60 miles away. Mean medical intensive care unit length of stay was 5.3 days vs. 3.9 days for nontransfer patients. Transfer patients accounted for 49% of medical intensive care unit admits and 56% of intensive care unit patient-days. The overall mortality rate for transfer patients to the medical intensive care unit was 25% (95% confidence interval, 23-26), significantly higher than the 21% (95% confidence interval, 19-22) mortality rate among those admitted directly. Independent prognostic factors for early death (<72 hrs) included male gender, summer season, admitting service, diagnostic related group level, Charlson Comorbidity Score, insurance type, and major diagnostic category. Independent prognostic factors for overall hospital mortality rate included length of stay, medical complication, distance traveled, insurance type, and major diagnostic category. CONCLUSIONS: Interhospital transfers to the medical intensive care unit are patients at high risk for mortality and other adverse outcomes. System-level and patient-level characteristics influence both early and overall hospital mortality rates. These variables should be considered when risk stratifying medical intensive care unit patients and in studying outcomes of care.

Source: MEDLINE

Full Text:
Available in fulltext at Ovid
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Available in print at Grantham Hospital Staff Library

37. [A descriptive study of intrahospital neurology service consultations]. [Spanish] Estudio descriptivo de las interconsultas intrahospitalarias a un servicio de Neurologia.

Author(s): Barrero-Hernandez FJ, Munuzuri-Sanz D, Casado-Torres A

Citation: Revista de Neurologia, June 2003, vol./is. 36/11(1001-4), 0210-0010;0210-0010 (2003 Jun 1-15)

Publication Date: June 2003

Abstract: INTRODUCTION: Neurology consultations requested by other services are a part of hospital attention that has not been studied or valued enough. However, it is a health care activity that is carried out on a daily basis and which consumes considerable amounts of time and resources. AIMS: The aim of this study is to assess intrahospital consultations (IHC) requested from a Neurology service. PATIENTS AND METHODS: We conducted a retrospective study of the requests for consultations received in the Neurology Service at the Hospital Universitario San Cecilio in Granada throughout the year 2001. The following variables were analysed: number of consultations, specialties involved, urgency of the request, syndromic diagnosis, complementary tests requested, final resolution and referral of patients. RESULTS: The number of consultations amounted to 270. The most frequent syndromic diagnoses were stroke (24.3%), epilepsy (13.7%) and dementia (11.7%). Internal Medicine, Cardiology, Vascular surgery and Oncology were the specialties that requested most consultations from the Neurology service. The most common complementary test was a computerised axial tomography of the head. 38.74% of the consultations were referred to Neurology outpatients for follow up. 40.5% of the consultations received were lacking in the information needed to understand the actual problem the patient was suffering from. CONCLUSIONS: This study attempts to highlight the importance of IHC as part of the day to day activity within a Neurology service, with respect to the number of consultations, knowledge of the most prevalent neurological pathologies in other services and the resources used in this type of assistance. More studies are needed on this subject, since there are few references in the literature to reports that analyse this type of attention.

Source: MEDLINE

38. Intensive care liaison nurse service: implementation at a major metropolitan
In order to support nurses caring for acutely ill patients in general wards recently discharged from the intensive care unit (ICU), The Alfred Nursing Division introduced the role of the ICU liaison nurse (ICU LN). The ICU LN provides a follow up service to ICU patients discharged to the general ward and advanced clinical consultancy to nurses throughout the hospital. The hospital is a 350 bed major metropolitan facility offering services to a wide range of patients. Many of the patients require complex, advanced care. The ICU LN provides additional roving nursing support to assist in aspects of clinical nursing management of the acute patient. The service has been well received throughout the hospital. It is believed to have improved communication between the ICU and general wards, contributed to continuity in care from ICU to the ward and allowed early identification of patient deterioration and specialist medical intervention. This paper will describe the role of the ICU LN and report on the implementation of the service. The experiences in the first 12 months of this role at The Alfred will also be discussed.

Source: CINAHL

39. Communication of useful information from laboratory physicians to clinical physicians

Author(s): Shimetani N.

Citation: Rinsho byori. The Japanese journal of clinical pathology, April 2003, vol./is. 51/4(336-340), 0047-1860 (Apr 2003)

Publication Date: April 2003

Abstract: In recent years increasing importance has been placed on the role of hospital clinical research, such as the promotion of intra-laboratory human, material and informational resources, previously restricted to the laboratory, to the whole hospital system, and the appropriate usage of laboratory findings via common consultation systems, or specialized informational consultants in the clinical laboratory department. The volume of clinical laboratory information, which plays an important role in the decision-making process of routine clinical practices, is enormous for each individual hospital, and appropriate use of this information has a major influence on institutional clinical practice efficiency. In response to the need for the communication of useful laboratory information to clinical physicians, departments of laboratory research consultants have been organized in individual hospitals as a way forward. In the near future, laboratory physicians will play a leading role in the communication of research information from the viewpoint of EBLM (evidence-based laboratory medicine). From the work of these laboratory research consultants, it becomes possible to obtain relevant EBLM-related information, such as frequently asked questions and opinions, from their users. By replying to these questions and opinions appropriately, laboratory research consultants can provide information that is both advantageous and useful, and which meets the needs of the clinical physician side. Effective communication of useful laboratory research information should not be restricted to either the laboratory physicians or the technicians; it is a job that needs the cooperation and teamwork of both sets of people. Also, they should always keep in mind that communication by itself is not sufficient; they should not assume the useful evaluation of information by the users, but rather ensure that they are presented with information that precisely meets their needs.

Source: EMBASE

40. Specialist nurses to evaluate elderly in-patients referred to a department of geriatric medicine

Author(s): Harwood R.H., Kempson R., Burke N.J., Morrent J.D.

Citation: Age and Ageing, September 2002, vol./is. 31/5(401-404), 0002-0729 (Sep 2002)

Publication Date: September 2002
Abstract: Background: Increasing numbers of elderly patients are admitted to hospital. Ensuring that they are given appropriate and timely access to the range of hospital and community medical, rehabilitation and social care facilities has become more difficult due to the complexity of management options now available, and limited senior medical staff time.

Methods: We established a scheme in which specialist nurses made first assessments of all inter-departmental referrals to a hospital department of geriatric medicine. We evaluated the scheme prospectively using process and outcome data. Results: 2825 new patients were seen by two nurses in the first two years, an average of 5.4 per weekday (range 0-17). Mean time from admission to referral was 9 days. Most referrals were seen within 1 day. Mean total length of hospital stay was 43 days (range 1-351). Seven percent died on the referring ward, and 31% were discharged directly from the referring ward. Almost half were accepted for in-patient rehabilitation. Sixty percent of these were discharged home. Thirteen percent were transferred to an acute geriatric medical or stroke ward. One-quarter of these died. Senior medical review was requested in 8% of cases. Conclusions: Nurses could select patients suitable for rehabilitation, identify those requiring on-going acute in-patient care, and make arrangements for supported direct discharges where appropriate. This model facilitated access to a wide array of discharge and community support schemes, and supported the efficient use of consultant time.

Source: EMBASE

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Available in print at Pilgrim Hospital Staff Library

41. Safe long-distance interhospital ground transfer of critically ill patients with acute severe unstable respiratory and circulatory failure.

Author(s): Uusaro A, Parviainen I, Takala J, Ruokonen E

Citation: Intensive Care Medicine, August 2002, vol./is. 28/8(1122-5), 0342-4642;0342-4642 (2002 Aug)

Publication Date: August 2002

Abstract: OBJECTIVE: To assess the safety of long-distance ground interhospital transport of critically ill patients with the most severe unstable respiratory failure after establishment of a dedicated transport system.DESIGN AND SETTING: Cohort study, retrospective chart review in 13 hospitals and intensive care units (ICU) in Finland, and a tertiary referral center and ICU of a university hospital.PATIENTS: 66 consecutive critically ill patients who were transferred to our ICU from 13 different ICUs in Finland because of severe, progressive respiratory failure, 52 (79%) with acute respiratory distress syndrome.MEASUREMENTS AND RESULTS: Major complications during transfer and patients' oxygenation. The median transfer distance was 161 km (range 120-460 km). Drugs for cardiovascular support were infused in 59 patients (89%) during transfer. Fourteen patients (21%) were transferred in prone position because of life-threatening hypoxemia. The ratio of arterial blood PaO(2) and the fraction of oxygen in the ventilator was 8.5+/-2.7 kPa (64+/-20 mmHg) before transfer and 9.7+/-3.6 kPa (73+/-27 mmHg) after transfer. There were no major complications during the transfer. ICU mortality was 30%.CONCLUSIONS: Long-distance interhospital ground transfer of even critically ill patients with severe unstable respiratory and circulatory failure is safe if a dedicated transport team and a specially equipped transport vehicle are used.

Source: MEDLINE

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42. EMTALA Q & A... transfers from satellite to the main campus for specialist consultations.
43. Clinical features, patterns of referral and out of hospital transport events for patients with suspected isolated spinal injury.

Author(s): Flabouris A

Citation: Injury, September 2001, vol./is. 32/7(569-75), 0020-1383;0020-1383 (2001 Sep)

Abstract: BACKGROUND: Prehospital diagnostic accuracy and risks of transportation associated neurological deterioration for patients with spinal injury remain imprecise. METHODS: Retrospective review of medical records for patients with suspected spinal injury assessed and escorted by medically staffed team. RESULTS: One hundred and ninety six patients had follow up for spinal injury, 61% with actual injury. Of the 196 patients, 93% involved helicopter transport, 3.5% road vehicle and 3.5% fixed wing transports. Fifty one percent were interhospital transfers. Medical team's scene diagnostic accuracy of spinal injury was 31%. Scene medical interventions were those consistent with current paramedical skills. Of interhospital transferred patients, 19% had no injury. Cervical injuries as part of mixed injuries were the most often missed injuries. Abnormal neurological findings occurred equally amongst patients with and without spinal injury. Transport related incidents were documented for 15%. Interhospital transport patient related incidents occurred for 12% helicopter and 36% road vehicle transports (P=0.094). No transport related neurological injury or other morbidity was documented. CONCLUSION: Prehospital diagnosis of spinal injury, even by medical teams remains imprecise. Choice of helicopter transport, based purely upon the suspected presence of spinal injury could not be supported.

Source: MEDLINE

Full Text: Available in fulltext at Elsevier; Note: Click link. At ScienceDirect webpage for journal, click Login, then Athens Login and enter your NHS Athens username/password to access full-text articles.

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Available in print at Lincoln County Hospital Professional Library
Available in print at Louth County Hospital Medical Library
Available in print at Pilgrim Hospital Staff Library

44. Record keeping during transfer of critically ill patients - Room for improvement?

Author(s): Cosgrove J.F., Snowden C.P., Roy A.I., Nesbitt I., Green J.D.

Citation: Care of the Critically Ill, 2001, vol./is. 17/3(88-93), 0266-0970 (2001)

Abstract: The increasing requirement for the inter-hospital transfer of critically ill patients necessitates that effective procedures are in place to ensure patient safety. Clear documentation is a vital tool in the assessment of quality of care during transfer. A retrospective review of transfers during a one-year period (April 1996 to March 1997) demonstrated that the referring hospital did not retain any records of vital signs during transfer. Two subsequent prospective audits were performed (February 1998 to September 1998 and January 1999 to March 2000). The first followed the introduction of a single hospital based "transfer chart." The second followed the introduction of a Region wide "transfer chart" in conjunction with a training course for the transfer of the critically ill patient. In the interval between the first and second audit periods, the presence of transfer documentation increased from 58% to 98% and in terms of completed documentation from 12% to 48% respectively. These initial results demonstrate a considerable improvement in the quality of transfer documentation, which may be accredited to increased awareness.
and improved training of staff. However further training and audit is likely to be necessary in order to continue this improvement.

**Source:** EMBASE

45. A standardised neurosurgical referral letter for the inter-hospital transfer of head injured patients.

**Author(s):** Keaney J, Fitzpatrick MO, Beard D, Ritchie DA, Dunn LT

**Citation:** Journal of Accident & Emergency Medicine, July 2000, vol./is. 17/4(257-60), 1351-0622;1351-0622 (2000 Jul)

**Publication Date:** July 2000

**Abstract:** OBJECTIVES: (1) To evaluate the use of a standardised neurosurgical referral letter in terms of compliance, completeness and clinical relevance. (2) To compare the clinical information provided on the standardised neurosurgical letter with that provided by referring hospitals that used alternative documentation. DESIGN: A six month prospective audit was conducted in south west Scotland. Consultant neurosurgeons were asked to weight key clinical variables on the neurosurgical referral letter (NRL). Postal surveys of 114 referring accident and emergency (A&E) staff and 18 neurosurgical receiving staff were undertaken to determine the clinical relevance of the NRL. Case notes were examined for the presence and level of completeness of the NRL. In the absence of the NRL, a form was completed retrospectively using data from the referring hospital's letter. This enabled comparison of the NRL with routine hospital letters in terms of the availability of key clinical information. RESULTS: 139 adult patients were identified as suitable for inclusion: 99 patients were transferred from 11 hospitals with access to the NRL. The compliance rate for use of the NRL was 82%. Forty patients were transferred from nine hospitals that did not have access to the NRL. The completion rate of key variables on the NRL was higher than when an ordinary letter was sent: 87% compared with 38%. The NRL was considered useful by 67 of 71 (94%) A&E questionnaire respondents and by 14 of 15 neurosurgeons who responded. CONCLUSIONS: The widespread acceptance of the NRL and its ability to provide essential clinical information in a concise format not available in routine hospital letters indicates that national, standardised documentation can be implemented if users are involved in both its design and implementation.

**Source:** MEDLINE

**Full Text:** Available in fulltext at National Library of Medicine

46. Interhospital transport of the extremely ill patient: the mobile intensive care unit.

**Author(s):** Gebremichael M, Borg U, Habashi NM, Cottingham C, Cunsolo L, McCunn M, Reynolds HN

**Citation:** Critical Care Medicine, January 2000, vol./is. 28/1(79-85), 0090-3493;0090-3493 (2000 Jan)

**Publication Date:** January 2000

**Abstract:** BACKGROUND: Critically ill patients may require specialized care that is offered only at tertiary referral centers. As regionalization and specialization of critical care become more common, transportation of critically ill patients must be refined. Transportation of critically ill patients within a hospital, much less outside the hospital, is often deemed unsafe because of medical instability. We report, here, our results from 2 yrs’ experience of transporting extremely ill patients with respiratory failure via a ground critical care transport service. METHODS: A mobile intensive care unit was equipped and staffed to nearly recreate the intensive care environment. Staffing included a physician, nurse, respiratory therapist, and driver—all with extensive critical care experience. The mobile intensive care unit was equipped with a full pharmacy, advanced ventilatory equipment, and capability for full invasive hemodynamic monitoring. Data were analyzed by retrospective review. The predicted mortality rate, based on Pao2/Fio2 ratios, was compared with the actual mortality rate. RESULTS: During a 2-yr period, 39 critically ill patients were transported. Thirty-six of the 39 were candidates for extracorporeal lung assist, with a mean positive end-expiratory
pressure requirement of 15.9, a mean Fio2 requirement of .93, and a mean Pao2/Fio2 ratio of 59.8. Pulmonary arterial catheters and peripheral arterial catheters were in place in 66.6% and 72% of patients, respectively. Vasoactive medications were being infused in 56%, and 74% were receiving medical paralytics. One patient died during movement from the bed to the transport gurney. Other than one episode of transient hypotension, there were no complications or untoward outcomes related to transport. Unique therapeutic interventions were performed at the receiving facility on 34 of 39 patients. The predicted mortality rate, based on indicators of lung dysfunction, was 68% to 100%; the actual subsequent hospital mortality rate was 43%. CONCLUSIONS: When a mobile intensive care unit is properly staffed and equipped and patient stabilization is performed before transfer, severely ill patients with respiratory failure can be transferred safely. For patients with respiratory failure, there may be a survival advantage in transfer to regional centers of expertise.

Source: MEDLINE

Full Text:
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47. Hospital transfer for primary coronary angioplasty in high risk patients with acute myocardial infarction.

Author(s): Straumann E, Yoon S, Naegeli B, Frielingsdorf J, Gerber A, Schuiki E, Bertel O

Citation: Heart, October 1999, vol./is. 82/4(415-9), 1355-6037;1468-201X (1999 Oct)

Publication Date: October 1999

Abstract: OBJECTIVE: To investigate the feasibility, safety, and associated time delays of interhospital transfer in patients with acute myocardial infarction for primary percutaneous transluminal coronary angioplasty (PTCA). DESIGN AND PATIENTS: Prospective observational study with group comparison in a single centre. 68 consecutive patients with acute myocardial infarction transferred for primary PTCA from other hospitals (group A) were compared with 78 patients admitted directly to the referral centre (group B). MAIN OUTCOME MEASURES: Patient groups were analysed with regard to baseline characteristics, time intervals from onset of chest pain to balloon angioplasty, hospital stay, and follow up outcome. RESULTS: Patients in group A presented with a higher rate of cardiogenic shock initially than patients in group B (25% v 6%, p = 0.01) and had been resuscitated more frequently before PTCA (22% v 5%, p = 0.01). No deaths or other serious complications occurred during interhospital transfer. Median transfer time was 63 (range 40-115) minutes for helicopter transport (median 42 (28-122) km, n = 14), and 50 (18-110) minutes by ground ambulance (median 8 (5-68) km, n = 54). The median time interval from the decision to perform coronary arteriography to balloon inflation was 96 (45-243) minutes in group A and 52 (17-214) minutes in group B (p = 0.0001). In transferred patients (group A) the transportation associated delay and the longer in-hospital median decision time (50 (10-1120) minutes in group A v 15 (0-210) minutes in group B, p = 0.002) concurred with a longer total period of ischaemia (239 (114-1307) minutes in group A v 182 (75-1025) minutes in group B, p = 0.02) since the beginning of chest pain. Success of PTCA (TIMI 3 flow in 95% of all patients), in-hospital mortality (7% v 9%, mortality for patients not in cardiogenic shock 0% v 4%), and follow up after median 235 days was similarly favourable in groups A and B, respectively. Only one hospital survivor (group A) died during follow up. CONCLUSION: Interhospital transport for primary PTCA in high risk patients with acute myocardial infarction is safe and feasible within a reasonable period of time. Short and medium term outcome is favourable. Optimising the decision process and transport logistics may further improve outcome by reducing the total time of ischaemia.

Source: MEDLINE

Full Text:
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48. Analysis of referral initiatives, severity of illness and return to care of older women with cervical cancer.

Author(s): Hsu WC, Lee JN, Tsai PL, Lin HJ, Su CM, Lee I

Citation: Chung Hua i Hsueh Tsao Chih - Chinese Medical Journal, March 1999, vol./is. 62/3(159-166), 0578-1337;0578-1337 (1999 Mar)

Publication Date: March 1999

Abstract: BACKGROUND: Cervical cancer is a worldwide malignancy particularly prevalent in older women. Due to the increasing population ratio of older women and their more complicated illnesses, doctors in Taiwan are concerned about the care of older patients with cervical cancer. Few studies have been performed on the association between referral initiative and illness severity upon referral as well as the tendency of older patients with cervical cancer to return to the referring doctor and to the consultant at the medical center for follow-up. The purpose of this study was to investigate the referral association by adjusting for confounding variables.

METHODS: This study included 214 women aged 65 years and over with cervical cancer diagnosed between 1987 and 1995. Patients were referred to a tertiary teaching hospital by 71 primary care gynecologists. The International Federation of Gynecology and Obstetrics clinical stage and clinical severity were assessed in each patient. Histopathologic results were reviewed to confirm the diagnosis.

RESULTS: Of all the cervical cancer referrals, 20.2% were initiated by patients or families and 79.8% were initiated by primary care doctors. No statistically significant differences were found in the Basic Activities of Daily Living or Instrumental Activities of Daily Living between doctor-initiated and patient-initiated referrals. High Geriatric Depression Scale and low Mini-Mental State Examination were associated with doctor-initiated referrals.

Higher cancer stage and greater clinical severity of patients with cervical cancer was found in patient-initiated referrals. After adjusting for marriage, family type, medical payment, mental status, cancer stage and clinical severity, the data showed that, if the referral was initiated by a primary care doctor, older patients with cervical cancer had a similar likelihood to return to both the primary care doctor and the tertiary teaching hospital for follow-up.

CONCLUSIONS: If a referral was initiated by a doctor, older women with cervical cancer were not only likely to return to their consulting physician at the medical center, but also likely to return to their primary care doctor. Continuous care is more likely to occur when the primary care doctor initiated the referral.

Source: MEDLINE

49. Analysis of referral initiatives, severity of illness and return to care of older women with cervical cancer


Citation: Chinese Medical Journal (Taipei), March 1999, vol./is. 62/3(159-166), 0578-1337 (Mar 1999)

Publication Date: March 1999

Abstract: Background. Cervical cancer is a worldwide malignancy particularly prevalent in older women. Due to the increasing population ratio of older women and their more complicated illnesses, doctors in Taiwan are concerned about the care of older patients with cervical cancer. Few studies have been performed on the association between referral initiative and illness severity upon referral as well as the tendency of older patients with cervical cancer to return to the referring doctor and to the consultant at the medical center for follow-up. The purpose of this study was to investigate the referral association by adjusting for confounding variables. Methods. This study included 214 women aged 65 years and over with cervical cancer diagnosed between 1987 and 1995. Patients were referred to a tertiary teaching hospital by 71 primary care gynecologists. The International Federation of Gynecology and Obstetrics clinical stage and clinical severity were assessed in each patient. Histopathologic results were reviewed to confirm the diagnosis. Results. Of all the cervical cancer referrals, 20.2% were initiated by patients or families and 73.8% were initiated by primary care doctors. No statistically significant differences were found in
the Basic Activities of Daily Living or Instrumental Activities of Daily Living between doctor- and patient-initiated referrals. High Geriatric Depression Scale and low Mini-Mental State Examination were associated with doctor-initiated referrals. Higher cancer stage and greater clinical severity of patients with cervical cancer was found in patient- rather than doctor-initiated referrals. After adjusting for marriage, family type, medical payment, mental status, cancer stage and clinical severity, the data showed that, if the referral was initiated by a primary care doctor, older patients with cervical cancer had a similar likelihood to return to both the primary care doctor and the tertiary teaching hospital for follow-up. Conclusions. If a referral was initiated by a doctor, older women with cervical cancer were not only likely to return to their consulting physician at the medical center, but also likely to return to their primary care doctor. Continuous care is more likely to occur when the primary care doctor initiated the referral.

Source: EMBASE

50. Compliance with the law and appropriate medical standards during interhospital transfers.

Author(s): Bullard MJ, Liaw SJ, Chen JC, Hu PM

Citation: Journal of the Formosan Medical Association, November 1998, vol./is. 97/11(770-6), 0929-6646;0929-6646 (1998 Nov)

Publication Date: November 1998

Abstract: Interhospital transfer patients constitute a significant proportion of medical center emergency department (ED) patients in Taiwan. Many such transfers are poorly planned and put the patient at risk. We wished to evaluate the safety and compliance with the Taiwan Medical Law among patients transferred to the Linkou Chang Gung Memorial Hospital ED from other health care centers. We performed a prospective, cross-sectional, observational study on 1,056 patients transferred from August 15 to September 30, 1997. Of these patients, 357 were critically ill or injured and only 160 received adequate pretransfer stabilization. The major omissions included: 1) failure to intubate in 121 (55%) of the 220 patients in severe respiratory distress or unprotected patent airways; 2) no intravenous line in 74 (20.7%) of the 357; and 3) inadequate IV lines in 36 (63.2%) of the 57 severely hypotensive patients. Overall, 894 patients were sent with transfer notes, but few indicated whether the referral was to the ED or outpatient department. This added an unnecessary burden for patients with stable longstanding problems who claimed they had been referred to the ED. While the majority of patients (49.4%) were transferred at the request of physicians for further treatment, 28% of the critically ill patients were transferred because of family requests. Physicians accompanied these patients only on seven occasions and nurses on 84 occasions. Despite the 1993 Department of Health policy of pretransfer phone contact with the receiving hospital for critically ill patients, such contact occurred only 10.6% of the time. While the Taiwan emergency medical system, Emergency Medicine, and Critical Care Medicine are all in their developmental stages, a medical and legal noncompliance rate of above 55% for critically ill transfer patients is unacceptably high. The appropriate medical societies and the Department of Health should work in concert to upgrade existing transfer practices.

Source: MEDLINE

51. Analysis of referral source, severity, and return among the elderly in rural primary care

Author(s): Hsu W.-C., Tsai P.-L., Lee W.-C., Yu H.-S., Lee I.

Citation: Tzu Chi Medical Journal, 1998, vol./is. 10/2(111-118), 1016-3190 (1998)

Publication Date: 1998

Abstract: With the increasing population of older people and their more complicated illnesses, physicians in the rural community are becoming more concerned about the care of older patients. This study was designed to determine the association between referral source and illness severity as well as the tendencies of older patients to return to their primary care physicians in rural areas. The study sample included 364 patients aged 65 and older who had been diagnosed from 1987 through 1994. The patients were referred to the departments of internal medicine of 18 secondary and 5 tertiary teaching hospitals by
68 primary care physicians. Type of referral source and return tendency data were collected from the physician and an independent trained interviewer, respectively. Of all the referrals for the older patients, 20.29% were initiated by the patient or their families and 79.71% were initiated by primary care physicians. No statistical significance was found in differences in Basic Activities of Daily Living (BADL) or Instrumental Activities of Daily Living (IADL) between physician-and patient-initiated referrals. Both high Geriatric Depression Scale (GDS) scores and low Mini-Mental State Examination (MMSE) scores were associated with physician-initiated referrals. Severe illness was associated with patient-initiated referrals in the older population. After controlling for marriage, family type, source of medical payment, mental status, depression, and severity of illness, this study showed that if the referrals were initiated by physicians, the older patients were more likely to return to their primary care physicians, a finding which was significant for both secondary and tertiary hospital referrals.

Source: EMBASE

52. Secondary insults during the interhospital transfer of head-injured patients: an audit of transfers in the Mersey Region.

Author(s): Dunn LT

Citation: Injury, September 1997, vol./is. 28/7(427-31), 0020-1383;0020-1383 (1997 Sep)

Publication Date: September 1997

Abstract: To assess the incidence of secondary insults and unidentified extracranial injuries a prospective audit of 50 head-injury transfers to a regional neurosurgical unit using a standardized assessment proforma was undertaken. There was wide variability in the quality of transfers. Six per cent of the group were hypoxic on arrival and 15 per cent were hypotensive. In the patients with multiple injuries, 29 per cent had inadequately diagnosed or managed injuries when they arrived. A comparison of this cohort of patients with previous studies is presented. As a result of the audit a set of transfer and referral guidelines have been drawn up and, following distribution of the guidelines to our referring hospitals, a further cohort of patients will be audited.

Source: MEDLINE

Full Text: Available in fulltext at Elsevier; Note: Click link. At ScienceDirect webpage for journal, click Login, then Athens Login and enter your NHS Athens username/password to access full-text articles.

Available in print at Grantham Hospital Staff Library

53. Does teleradiology improve interhospital management of head-injury?

Author(s): Goi K.Y.C., Tsang K.Y., Poon W.S.

Citation: Canadian Journal of Neurological Sciences, August 1997, vol./is. 24/3(235-239), 0317-1671 (Aug 1997)

Publication Date: August 1997

Abstract: Objective: In many countries, neurosurgical care is concentrated in regional centres, which often necessitates the inter-hospital transfer of patients with head injury for optimal treatment. The aim of this study was to evaluate the role of teleradiology in the management of head-injured patients when referred from a district general hospital to a tertiary neurosurgical centre. Methods: Prospective data were collected over a fifteen month period from March '95 to May '96. Head-injured patients referred without the facility of teleradiology (Group 1), were compared to similar patients referred with teleradiologic images (Group 2), with particular regard to therapeutic intervention before transfer and adverse events during transfer. Results: There were 28 patients in Group 1 and 35 in Group 2, of which 31 were transferred. Both groups were comparable with respect to age, admission Glasgow Coma Scale score, and intracranial pathology. For patients transferred with teleradiology consultation (Group 2), therapeutic interventions were mere (32.1% vs 10.7%, p = 0.06), adverse events during transfer were significantly lower (6.4% vs. 32.1%, p = 0.01), and transfer time was reduced (72 vs. 80 minutes, p = 0.38). Four patients in Group 2 were treated by a mobile neurosurgical team at the referring hospital because of
rapid clinical deterioration. Conclusion: Our findings indicate that teleradiology has an important role in improving inter-hospital management of head-injured patients.

Source: EMBASE

54. Opinions of dental consultants on the standard of referral letters in dentistry

Author(s): McAndrew R., Potts A.J., McAndrew M., Adam S.

Citation: British dental journal, January 1997, vol./is. 182/1(22-25), 0007-0610 (11 Jan 1997)

Publication Date: January 1997

Abstract: AIM: To ascertain the views of dental consultants on the relative importance of a range of topics relevant to specialist referral. SUBJECTS: 200 randomly selected dental consultants working in the UK in 1995. MAIN OUTCOME MEASURES: Data items which referral letters should contain; standard of referral letters; appropriate reasons for referral; how referrals could be improved; should restrictions be placed on specialist referrals. RESULTS: 161 replies were received. Overall there was only slight variation between specialities with regard to data items, appropriateness of referral and standard of referral letter. The perceived standard of referral letters was adequate or better on 76% of occasions; 21% were deemed to be of a poor standard; 2% were described as appalling. CONCLUSIONS: A Section 63 course on how to refer competently could be of benefit. Consultants were generally not in favour of restricting referrals to them.

Source: EMBASE

55. Referral pattern and management of patients with malignant brain tumours in south east Scotland.

Author(s): Grant R, Whittle IR, Collie DA, Gregor A, Ironside JW

Citation: Health Bulletin, May 1996, vol./is. 54/3(212-22), 0374-8014;0374-8014 (1996 May)

Publication Date: May 1996

Abstract: We reviewed hospital case notes of all incident cases of intracerebral tumours in SE Scotland to analyse referral pattern and time intervals between presentation, diagnosis and treatment. We identified 439 new patients with intracerebral tumours in a two year period: 64% single (primary brain tumours 43%; metastasis 21%) and 36% multiple (metastases). Ninety-two per cent of patients were referred by GP’s and 88% were self referrals to hospital or were initially identified at hospital follow-up clinics. Only 27% of patients were initially referred to the specialist centre (Western General Hospital) but 57% were CT scanned at the specialist centre and 83% were referred to there at some time. Time from GP referral to CT scan was related to availability of local CT scanning. Only 10% of cases with probable single metastases and 39% with HGG were treated with surgery plus radiation. Cranial irradiation was started within four weeks of CT diagnosis in 79% of those with metastases but in less than 5% of patients with HGG. The patterns of care for patients with brain tumours show great variation. Hospital referral guidelines, better inter-hospital and inter-department communications and more available access to CT scanning and radiotherapy should improve the quality of care and possibly treatment outcome in this group of patients.

Source: MEDLINE

56. Conflicts in consultation

Author(s): Stinson M.S.

Citation: Journal of the South Carolina Medical Association (1975), January 1996, vol./is. 92/1(14-17), 0038-3139 (Jan 1996)

Publication Date: January 1996

Abstract: Conflicts in the medical care of patients are to be expected, since much of patient care remains an art. No less an art is the practice of inter-physician communication which should be the cornerstone of consultation medicine. Improved clarity of the reason for the consult and improved compliance with the recommendations themselves will result
from effort devoted to these communications. When conflicts arise, however, and progress to the extreme, ethical guidelines as outlined in this article may help to provide an approach toward resolution.

Source: EMBASE

57. Inpatient referral between hospital wards: Informing patients [French]
TRANSFER DE PATIENTS ENTRE DEUX SERVICES HOSPITALIERS:
INFORMATION DES PATIENTS

Author(s): Huber P., Allaz A.-F.

Citation: Annales de Medecine Interne, 1996, vol./is. 147/1(5-9), 0003-410X (1996)
Publication Date: 1996

Abstract: In order to determine what inpatients transferred to another inpatient care facility know about their health problems, the motives for their transfer, and the level of agreement between patients and physicians on these issues, we conducted a semi-structured interview and a content analysis of the transfer letter of 64 consecutive patients transferred from an academic internal medicine unit to a related intermediate care internal medicine unit with a vocation of rehabilitation and psychosocial care. After a mean length of stay of 18.5 +/- 11 days, 31% of patients did not know their medical diagnosis and only 54% knew at least one motive of transfer they agreed with. Only 48.5% of patients described a motive of transfer which was also found in their transfer letter. Doctors and patients disagreed on a psychosocial motive for transfer for 15.5% of patients. 14% of patients were opposed to their transfer and 7% did not know why they were transferred. Finally 22% of transfer letters were not informative enough to allow comparison. We conclude that at the time of their transfer a large number of patients lack adequate information on their diagnosis and on the reasons for their transfer.

Source: EMBASE

58. Analysis of causes of pediatric transfer from a non-tertiary hospital
[Spanish] ANALISIS DE LAS CAUSAS DE TRASLADO PEDIATRICO DESDE LA PERSPECTIVA DE UN HOSPITAL COMARCAL

Author(s): Contessotto Spadetto C., Lucas Moreno J.M., Gutierrez Sanchez J.D., Diez Lorenzo P.

Citation: Revista Espanola de Pediatria, 1996, vol./is. 52/308(135-140), 0034-947X (1996)
Publication Date: 1996

Abstract: Pediatric transfers from a non-tertiary hospital in the last six years were reviewed to obtain information useful for standardizing and optimizing such medical decisions. The criteria leading to transfer to a tertiary hospital were evaluated retrospectively. Data was collected from the emergency room registries and pediatrics release reports of the remitting hospital and from the hospital records of the receiving hospital. In the 1989-1994 study period, 259 patients under 14 were transferred, mainly for surgical (26%), neonatal (25%), and neurological (25%) causes. Critical analysis of the reasons for transfer disclosed 60.3% justifiable transfers, the rest being questionable. 23.9% of patients were not admitted to the referral hospital, which apparently denotes poor patient selection, particularly in cases of head injury, ingestion of caustic agents, gastrointestinal hemorrhage, burns, and suspected appendicitis. A lack of material and/or adequate technical personnel was responsible for a significant percentage of transfers for neonatal hyperbilirubinemia, prematurity, suspected meningitis, etc. Identification of these problems is essential in order to ensure that pediatricians act correctly in apparently difficult situations that often can be resolved in the non-tertiary center without an interhospital transfer.

Source: EMBASE

59. Inter-hospital transport of neonatal patients on extracorporeal membrane oxygenation: mobile-ECMO.

OBJECTIVE: To describe the equipment, personnel requirements, training, management techniques, and logistic problems encountered in the design and implementation of a mobile extracorporeal membrane oxygenation (ECMO) program.

DESIGN: This is a report of a technique for the transport of patients on ECMO and a description of our retrospective case series.

SETTINGS: The study was conducted at a regional referral children's hospital and ECMO unit.

PATIENTS: Thirteen neonatal medical patients with acute respiratory failure were transported with mobile-ECMO.

RESULTS: Over a 24-month period, we transported 13 neonatal patients with mobile-ECMO. The reason for transport with mobile-ECMO was inability to convert from high-frequency ventilation (4 of 13), patient already on ECMO (1 of 13), and patient deemed too unstable for conventional transport (8 of 13). Eleven of the 13 patients were transported from other ECMO centers. Of the 13, 9 survived. No major complications during transport were reported for any of the patients. Follow-up data were available on all nine survivors of neonatal mobile-ECMO. Eight of these had normal magnetic resonance imaging scans of the brain; the ninth had a small hemorrhage in the left cerebellum.

CONCLUSION: Our limited series shows that patients can be safely transported with mobile-ECMO. This program does not replace the early appropriate transfer for ECMO-eligible patients to an ECMO center.

Source: MEDLINE
reoperation for control of bleeding or removal of packs, and three died of associated injury or multiple organ failure (MOF). Of the other 39 transferred patients, 23 diagnosed by computed tomography (CT) were selected for nonoperative management with success, 11 survived after operation, one died of hemorrhage, and four died of associated injuries or MOF. For the entire group of 98 cases, adjuncts perceived as useful included perihepatic gauze packing (11 cases) and angiographic embolization (6 cases). Mortality increased with increasing magnitude of injury. Even with major hepatic trauma on CT, stable patients are unlikely to require surgery. Active hemorrhage in unstable patients may be controlled temporarily by expeditious operative techniques including gauze packing. These findings usually allow cooperation between rural hospital and referral center in the management of these potentially serious cases.

Source: MEDLINE

62. Reduction of morbidity in interhospital transport by specialized pediatric staff.

Author(s): Edge WE, Kanter RK, Weigle CG, Walsh RF

Citation: Critical Care Medicine, July 1994, vol./is. 22/7(1186-91), 0090-3493;0090-3493 (1994 Jul)

Publication Date: July 1994

Abstract: OBJECTIVE: We prospectively compared the occurrence of morbidity during high-risk interhospital transport in two types of transport systems: specialized tertiary center-based vs. nonspecialized, referring hospital-based. DESIGN: Concurrent, prospective comparison of morbidity at two pediatric centers that use different types of transport team. SETTING: Two tertiary care pediatric intensive care units (ICU). The specialized team consisted of a pediatric resident, pediatric intensive care nurse, and a pediatric respiratory therapist. Comparison was made with referring institution transports by nonspecialized personnel to a second center. The two centers were similar in size and patient mix, with referral areas of similar population and rural/urban ratio. PATIENTS: One hundred forty-one patients transported to two tertiary pediatric ICUs. INTERVENTIONS: None. MEASUREMENTS AND MAIN RESULTS: Two types of events were assessed: vital signs and other observable clinical events were described as "physiologic deteriorations." Events such as loss of intravenous access, endotracheal tube mishaps, and exhaustion of oxygen supply were described as "intensive care-related adverse events." Pretransport severity of illness and therapy were described by Pediatric Risk of Mortality (PRISM) and Therapeutic Intervention Scoring System (TISS) scores. Only high-risk patients with PRISM scores of \( > 10 \) were analyzed. Intensive care-related adverse events occurred in one (2%) of 49 transports by the specialized team and 18 (20%) of 92 transports by nonspecialized personnel. The difference is statistically significant \( (p < .05) \). Physiologic deterioration was similar in the two groups occurring in five (11%) of 47 specialized team transports and 11 (12%) of 92 transports by the nonspecialized team. CONCLUSION: We conclude that specialized pediatric teams can reduce transport morbidity. This is the first published study to compare two models of pediatric transport using identical definitions of severity and morbidity.

Source: MEDLINE

63. Do clinicians tell each other enough? An analysis of referral communications in two specialties.

Author(s): Newton J, Hutchinson A, Hayes V, McColl E, Mackee I, Holland C

Citation: Family Practice, March 1994, vol./is. 11/1(15-20), 0263-2136;0263-2136 (1994 Mar)

Publication Date: March 1994

Abstract: Referral letters and replies are an important vehicle for conveying information about patients and for creating and sustaining professional relationships. Studies of communication between hospital specialists and GPs, however, suggest that improvements could be made to the content of letters. In this study, which is part of a larger study of referral expectations, a sample of 39 letters to and from the ENT and Rheumatology departments at Sunderland Royal Infirmary was analysed to find out what
objectives were being achieved through the correspondence between consultants and GPs. An analytical framework of letter content was derived from a review of 25 letters to and from each specialty and from a separate study of doctors’ opinions of letter content conducted by two of the authors. Doctors recruited to the present study were involved in devising a weighted scoring system for letter content. Analysis showed that the letters accomplish the basic objective of transferring clinical and administrative information. They were less likely to contain items of a socio-psychological type. There was very little difference in the standardized letter scores between the two specialties. While the level of detail recorded in this sample may be adequate for straightforward referrals, there are indications that clinicians’ letters are frequently not addressing nonclinical matters that can be a complicating factor in a proportion (perhaps a fifth) of referrals. This may be a possible topic for audit in multidisciplinary groups.

Source: MEDLINE

Google Scholar

64. Outcome of critically ill patients undergoing **interhospital** transfer

... mortality risk after resuscitation and transfer to ICU (inter- or **intrahospital** transfer ... a Category B transfer (Department of Human Services, Critical Care **Inter-Hospital** Transfer Monitoring ... Extrapolating our results to the metropolitan region, acute **interhospital** transfer may adversely ...

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65. Pretransport Pediatric Risk of Mortality (PRISM) score underestimates the requirement for intensive care or major interventions during **interhospital** transport.

... **Referral** PRISM scores underestimated Team PRISM scores. CONCLUSIONS: PRISM scores determined before **interhospital** transfer of pediatric patients underestimated the requirement for intensive care and the performance of major interventions in the pretransport setting. ...

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66. Morbidity and severity of illness during **interhospital** transfer: impact of a specialised paediatric retrieval team

J Britto, S Nadel, I Maconochie, M Levin… - British Medical Journal, 1995 - bmj.com
... **Referral** to arrival of team at patient's bedside. ... [Medline]; Macnab AJ. Optimal escort for **interhospital** transport of paediatric emergencies. ... (CRD Report No 1.); Barry PW, Ralston C. Adverse events occurring during **inter-hospital** transfer of the critically ill. ...

67. **Interhospital** transfer of the critically ill trauma patient: the potential role of a specialist transport team in a trauma system.

GH McGinn, RE MacKenzie, JA Donnelly… - Journal of accident & …, 1996 - emj.bmj.com
... Guidelines for the transfer of critically ill patients. Crit Care Med 1993;21:931-7. 3 Oakley PA. The need for standards for **inter-hospital** transfer. ... Prospective analysis of rural **interhospital** transfer of injured patients to a **referral** trauma centre. J Trauma 1990;30:1014-20. ...

68. Adverse effect on a **referral** intensive care unit's performance of accepting patients transferred from another intensive care unit*

A Combes, CE Luyt, JL Trouillet… - Critical care ..., 2005 - journals.lww.com
Page 1. Feature Articles Adverse effect on a **referral** intensive care unit's performance of accepting patients transferred from another intensive care unit* ... 705 Crit Care Med 2005 Vol. 33, No. 4 Page 2. to December 2001 to a 17-bed **referral** ICU in a teaching hospital. ...

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69. Elective **intrahospital** admissions versus acute **interhospital** transfers to a surgical intensive care unit: Cost and outcome prediction
The average cost for a patient who was significantly higher for both survivors and nonsurvivors (Table 5). Indeed, the average cost for a patient who was recorded for the pre-ICU period and for the first 2 hours of PICU care. The first two PICU hours for control patients correspond to the time interval of interhospital transport in ... Control patients' status and care were recorded for the pre-ICU period and for the first 2 hours of PICU care. The first two PICU hours for control patients correspond to the time interval of interhospital transport in ... Control patients' status and care were recorded for the pre-ICU period and for the first 2 hours of PICU care. The first two PICU hours for control patients correspond to the time interval of interhospital transport in ... Control patients' status and care were recorded for the pre-ICU period and for the first 2 hours of PICU care. The first two PICU hours for control patients correspond to the time interval of interhospital transport in ...

70. Excess morbidity associated with interhospital transport
RK Kanter, NM Boeing, WP Hanan... - Pediatrics, 1992 - Am Acad Pediatrics
... it recorded for the pretransport and interhospital transport intervals. Control patients’ status and care were recorded for the pre-ICU period and for the first 2 hours of PICU care.

71. Interhospital teleconsultation and referral
H Sharma, R Sharma - BMJ Career Focus, 2004 - BMJ
Teleconsultation for advice on management or to discuss interhospital transfers can be a useful tool in complex cases. Here are some tips on making sure the process goes smoothly. Do: Check with a senior colleague that the referral is really appropriate Be clear about whether you ...