

Quantitative and Qualitative Insights into Clinical Use of Evidence-Based Treatments for Elderly Patients with Hip Fractures in Alberta, Canada

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Background

- In Alberta, incidence rate of hip fractures in females and males aged 65 years and older during 1996-1997 was 7.7 /1000 and 3.6/1000, respectively.
- Hip fractures represent the second leading cause of hospitalization in the elderly.
- Annual costs associated with hip fractures in Canada are estimated at 650 million dollars.

- Projected costs expected to increase to 2.4 billion dollars in 2041.
- High 1 yr mortality rates of hip fracture (18-33%).
- 25-50% patients who survive are placed in long term care within a year of fracture.
- 25% will make a full recovery.

Objectives of the Project

Question: What is the best evidence-based practice for treatment of patients throughout the continuum of treatment and recovery following a hip fracture in elderly patients?

- This objective was met by performing a quantitative review through a systematic appraisal of literature.

Questions:

- 1) *Is evidence-based care being delivered?*
 - 2) *If not, what barriers exist to prevent delivery of such care?*
 - 3) *What other issues, if any, affect the continuum of care and integration of services but are not addressed in the literature?*
- These objectives were met by performing a qualitative review with health professionals and policy makers in 6 health regions who treat this patient population.

Methods: Literature Review

A systematic review of published literature (1985 - 2002) was completed to identify:

- 1) best care for hip fracture patients,
- 2) determinants of outcomes (e.g. function, morbidity and mortality)
- 3) determinants of fracture (e.g. osteoporosis, gender, pre-fracture health status).

- 2 independent reviewers blinded to article identification.
- Data extracted regarding the study methodology and results.
- Internal validity assessed.
- Evidence-based synthesis produced.

Regional Structure

City	Regional Health Authority	Hospital(s)	Number of Hip Fracture per Annum	Population Base Served
Grande Prairie	Mistahia	Queen Elizabeth II	95 - 100	196,000
Edmonton	Capital Health	Royal Alexandra University of Alberta Misericordia	750 - 800	1,500,000
Red Deer	David Thomson	Red Deer Regional	175 - 200	189,000
Calgary	Calgary	Foothills Rockyview Peter Loughheed Centre	750 - 800	1,000,000
Lethbridge	Chinook	Lethbridge Regional	123 - 150	150,000
Medicine Hat	Palliser	Medicine Hat	85 - 115	115,000

Review of current practice in Alberta

- Each regional team received the evidence synthesis document for review.
- Individual video conferences were held between each region and the investigative team.

- Discussion was directed towards best care delivery and integration of services.
- Where best practice was not being delivered, barriers to such care were explored.
- The continuum of care was also discussed.

- Conferences were videotaped and summarized.
- Copies of these summaries were sent to participants for review and feedback.
- Contents were synthesized as a provincial policy review and compared to literature findings.
- For areas of limited evidence, future research questions were developed.

Results: Systematic Review

- >1000 abstracts reviewed.
- 8 databases, various web-sites and reference lists reviewed.
- 35 articles selected for summary regarding evidence-based treatment

Treatments with Evidence

The following areas had clear evidence to support or refute their use:

- Preoperative Traction
- Pressure Sore Prevention
- Prevention of Surgical Delay
- Regional Anaesthetic Use
- Postoperative Wound Drainage
- Deep Vein Thromboses Prophylaxis
- Antibiotic Prophylaxis
- Oxygen Therapy

Gaps in Knowledge

The following areas had very limited or no evidence to direct treatment practices:

- Rehabilitation Settings
- Home Care
- Recovery in Long Term Care facilities

Findings:

- All regions were delivering evidence-based treatment in most areas of perioperative care.

Implications:

- Provincial perioperative treatment guidelines may be established with minimal resource reallocation.

Findings:

- Surgical delay of > 24 hrs was common across all sites.
- Delays were primarily due to lack of resources - personnel or infrastructure.

Implications:

- Urgent reallocation of resources are needed.
- Achievable benchmark needs to be established. Eg. 90% receive surgery within 24 hrs

Findings:

In Alberta a seamless continuum of care does not exist for treatment of hip fractures.

Patients who are

1) transferred to nonsurgical (hip fracture) hospitals or long term care facilities

or

2) awaiting alternate levels of care do not have adequate treatment or rehabilitation options.

Findings cont'd:

- Little evidence exists on how ongoing care should be integrated across different treatment settings to provide a seamless continuum of recovery.

Implications:

Research regarding the delivery of care is needed in:

- Long term care facilities
- Regional hospitals
- Rehabilitation settings
- Community

Findings:

- Communication across disciplines and settings is limited.

Implications:

- Educational Outreach programs may be an option. Eg. Red Deer Hip Fracture Educational Team

Conclusions

- This project is the first in Alberta, and to our knowledge in Canada, to report providers' and allied health professionals' impressions of how care is delivered to elderly patients with hip fractures.

Within Alberta:

- Most areas of perioperative care for elderly patients with hip fractures is evidence-based.
- Surgical delays beyond 24 hrs need to be rectified.
- Further investigation about how the continuum of care and integration of services can be improved in an effective and cost-effective manner across treatments settings is needed.

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