Does an orthopaedic preoperative assessment clinic benefit from a pharmacist?

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Pharmacist involvement in orthopaedic preadmission clinics

- Nurses traditionally run preadmission clinics (PAC).
- Medication history often taken by the nurse or doctor.
- There are a few centres involving a pharmacist in orthopaedic PACs.
Preoperative assessment

- Is to ensure that the patient is fully informed, prepared for anaesthesia, surgery and discharge.
- Is important to minimise risks of surgery & anaesthesia
- To improve patient outcomes post-surgery
Why involve a pharmacist in preoperative assessment?
Complexity of medicines

- Biological therapies e.g Anti-TNF.
- Increasing use of ‘high risk’ medicines:
  - methotrexate
  - anticoagulants e.g warfarin
  - antiplatelets e.g. clopidogrel
- Herbal remedies e.g St John’s Wort
Numbers of medicines prescribed

- Four out of five people over the age of 75 take at least one prescribed medicine with more than a third taking four or more medicines. (Armour & Cairns 2002)

- 36% of older people take four or more different medicine regularly. (Oboh, PharmJ 2006)
Survey of 100 consecutive orthopaedic patients seen by a pharmacist in the Cardiff & Vale orthopaedic preadmission clinic (2006)
Does an orthopaedic preoperative assessment clinic benefit from a pharmacist?
Study of all pharmaceutical interventions made for all elective orthopaedic patients admitted in a 4 week period (2007)
Aim

To determine whether a pharmacist documenting medication & allergy status at the orthopaedic PAC reduces the number of medication errors and necessary pharmaceutical interventions for elective orthopaedic patients on admission.
Background

- Pharmacist attended the orthopaedic PAC from June 2006.

- PAC of 3 of the 25 orthopaedic consultants plus 1 cons anaesthetist

- Pharmacist interviews the patient and documents a full list of medications and allergy status in the PAC notes.
All other patients have their medications and allergies documented by a PAC nurse.

PAC documentation used to prescribe medication on patients chart on admission to ward.

Patients medication chart written by orthopaedic FP2.
Method

- Four-week survey on all elective orthopaedic wards in February 2007.

- All pharmaceutical interventions identified on the first review of the patients medication chart were recorded.

- A comparison of the number and type of interventions recorded between those patients seen by a pharmacist at PAC and those not.
Categories of pharmaceutical interventions

- Missing medication
- Incorrect medication
- Incorrect dose/frequency
- Incorrect timing
- Allergy/intolerance incorrect or incomplete
- Incorrect route
- Incomplete/ambiguous prescription
- Inappropriate continuation of medication
- Drug/drug interaction
- Drug/patient interaction
Percentage of patients charts requiring ≥1 pharmaceutical interventions.

There was a significant decrease in the number of patients charts that required an intervention in the pharmacy group (63% vs. 43%, p=0.01).
Classification of pharmaceutical intervention.

- Medication omitted
- Incorrect medication
- Incorrect dose or frequency
- Incorrect timing of dose
- Allergy incomplete or incorrect
- Incorrect route
- Incomplete or ambiguous
- Inappropriate continuation of medication
- Drug-drug interaction
- Drug-patient interaction
Missing medication

- The most common intervention recorded was unintentional omission of medication.

- This was significantly higher in the non-pharmacist group 33.7% vs. 12.8%, (p=0.005).
Missing allergy status

- A reduction from 19.7% to 12.8% if seen by a pharmacist in PAC.
Incorrect medication

- Of the patients *not seen* by a pharmacist, 4.1% were prescribed drugs they did not take.

- Of the patients *seen* by a pharmacist, 2.1% were prescribed drugs they did not take.
Examples of pharmaceutical interventions

- Methotrexate prescribed daily
- Movelat instead of meloxicam
- Co-codamol & paracetamol
- Missing anti-psychotics
- Missing Parkinsons treatments
Study conclusions

- Pharmacist involvement in an orthopaedic PAC:
  - Significantly reduces medication-related errors on initial inpatient medication chart.
  - Pharmacist documentation of medication & allergy status in PAC documentation is insufficient to eliminate medication errors.
- There is considerable room for improvement.
Study proposals

- Formal inclusion of a pharmacist within the PAC.

- Pharmacist transcription of medication & allergy history onto the inpatient medication chart.
A spoonful of sugar
Audit Commission report 2001

- Emphasised importance of medicine management.
- Recommended hospital pharmacy service included taking patients’ medication history.
- Acknowledged the fact that pharmacists take more accurate drug histories in comparison to other health professionals e.g. junior Drs.
Designed for Life 2005

- Targeted continuous performance improvement:
  - Safety
  - Effectiveness
  - Patient focus
  - Timeliness
  - Efficiency
NPSA

- 500-600,000 patients experienced a patient safety incident per year.
- “Insufficient communication, education or teamwork are associated with many of the reported patient safety incidents across all settings and types of incidents.”
NPSA/NICE

Patient safety solutions pilot:

Clinical and cost-effectiveness of interventions in medicines reconciliation at the point of admission (due Dec07).

Provisionally recommending “pharmacists involved in medicines reconciliation as soon as possible after hospital admission”.
Unintentional variances of 30-70% between medication patients were taking before admission & their prescriptions on admission.
Benefits to Surgical/Anaesthetic team of Pharmacist transcribing medication onto inpatient drug chart at the PAC.

- Accurate medication prescription.
- Accurate documentation of allergy status.
- Identification & resolution of medication related problems.
- Reduction in morbidity, mortality and economic burden to health services.
Benefits to Pharmacists

- Able to document medication history in a less stressed environment.
- Confidence that fewer unplanned issues will occur on ward.
- Establish an early professional relationship with patient.
- Easier resolution of medication related problems preoperatively.
- Greater team working with other professions.
Other benefits to patient of a pharmacist in PAC

- Patient confidence increased.
- Answer medication related queries.
- Give advice regarding complimentary therapies.
Communicating with G.P

- Specific medication problems identified.
- Compliance issues.
A pharmacist documenting medication and allergy history in the orthopaedic PAC with transcription onto the inpatient medication chart should

**Minimise risk of unintentional medication errors**

A repeat survey will be necessary to confirm!