The older surgical patient an anaesthetists perspective

POPS at the Wellcome Collection, London
9th March 2016

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Torbay Hospital
Torquay
Devon
Background:
A 1998 ICU Consultants Strategy

• Identify individual patient risk
• Identify who would benefit from postoperative HDU care

• Pre operative assessment, Enhanced recovery, Shared decision making for high risk surgery
Summary

• Overview of Pre assessment process
• Identification of high risk surgery patients
• Shared decision making
• Post operative HDU care
Pre assessment process
(a few thoughts)

• Getting the patient ready for surgery
• Nurse based preparation
• Multidisciplinary (Physio, OT, Pharm, Spec Nu)
• Medical input to help set up process or pathway
• Assessment triggers (HbAC1, pain score, delirium, falls, frailty, nutrition, OSA)
• Electronic patient record (documentation, communication, decision aids)
• Social Services
• Joint School and Surgical School
Additional Information

- Royal College of Anaesthetists [http://www.rcoa.ac.uk](http://www.rcoa.ac.uk)

  Guidelines for the provision of anaesthetic services (GPAS)
  GPAS Preoperative assessment
  Perioperative Medicine microsite

- The Preoperative Association [http://www.pre-op.org](http://www.pre-op.org)

- NHS Right Care [www.rightcare.nhs.uk/](http://www.rightcare.nhs.uk/)

  Shared Decision Making: information, aids
All Elective Patients Have Nurse Based Pre-assessment

- **Nurse only**
  - 80%
  - May need brief check

- **Medical Review**
  - 15%
  - Clinic or Co-ordinate

- **High Risk Patients**
  - 5%
  - SDM High Risk Clinic
Identification of high risk surgery patients
Identification of high risk surgery patients

• Type of surgery
• Age and sex
• RR 1.5: CCF, MI, Stroke, PAD, CRF
• RR 1.25: angina, TIA
# Torbay Hospital Perioperative Medicine Clinic
## Assessment for Hip and Knee Joint Replacement Surgery

<table>
<thead>
<tr>
<th>RISK</th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nurse Consultation</td>
<td>Refer for Notes Review</td>
<td>Anaesthetic Clinic</td>
<td>Shared Decision Making Clinic +/- CPET</td>
</tr>
<tr>
<td>Age &lt;75</td>
<td>Age 75-84</td>
<td>Age &gt;85</td>
<td></td>
</tr>
<tr>
<td>Investigations</td>
<td>Abnormal Investigations (ECG, Bloods)</td>
<td>MI/NSTEMI</td>
<td>Frequent or concerning angina</td>
</tr>
<tr>
<td>CVS</td>
<td>CABG or coronary stents</td>
<td>Heart Failure</td>
<td>Angina</td>
</tr>
<tr>
<td></td>
<td>Angina</td>
<td></td>
<td>Peripheral arterial disease</td>
</tr>
<tr>
<td>Respiratory</td>
<td>Problems with SOB</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Renal</td>
<td>Abnormal creatinine</td>
<td>Cr&gt;130</td>
<td></td>
</tr>
<tr>
<td>Neurological</td>
<td></td>
<td>CVA</td>
<td>2X TIA</td>
</tr>
<tr>
<td></td>
<td>TIA</td>
<td>Dementia</td>
<td>Dementia</td>
</tr>
<tr>
<td></td>
<td>Dementia</td>
<td></td>
<td>Post operative delirium</td>
</tr>
<tr>
<td></td>
<td>History of postoperative delirium</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Recurrent falls</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Frailty</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Haematological</td>
<td>PE</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oncology</td>
<td>Malignancy</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Surgical Factors</td>
<td></td>
<td>Revision Surgery</td>
<td>Bilateral Surgery</td>
</tr>
<tr>
<td>Anaesthetic Factors</td>
<td>Recent ICU admission (within 6-12 months)</td>
<td>Airway issues</td>
<td>Intraoperative complications</td>
</tr>
<tr>
<td>Patient Factors</td>
<td>Previous perioperative issues</td>
<td>Patient worried</td>
<td>Previous post operative metaraminol</td>
</tr>
<tr>
<td></td>
<td>Patient worried</td>
<td>Patient request</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Patient request</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Any other concerns from</td>
<td>e.g. Sleep apnoea, malnourished, BMI &gt;45</td>
<td></td>
<td>Concerns around ‘Frailty’</td>
</tr>
</tbody>
</table>
Individual Risk Prediction
(John Carlisle calculator)

• Type of surgery, age and sex, CCF, MI, Stroke, PAD, CRF, angina, TIA
• Peak oxygen consumption
• Ventilatory equivalents
• Weight
• Others: delirium, dementia, frailty, low creatinine, liver failure

http://sites.google.com/site/informrisk
Abdominal Aortic Aneurysm

Diagnosed by screening program or fortuitous
Operation: consider when >5.5 cm
Aim: to prevent death by rupture

EVAR: reduced short term mortality/morbidity
Open: reduced follow up and additional surgery
Long term survival after AAA surgery
(39,966 matched pairs NEJM 2015:373;238-38)

A

![Graph showing survival rates after AAA surgery with endovascular and open repair methods.](image)

No. at Risk

<table>
<thead>
<tr>
<th>Year</th>
<th>Endovascular repair</th>
<th>Open repair</th>
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</thead>
<tbody>
<tr>
<td>0</td>
<td>39,966</td>
<td>39,966</td>
</tr>
<tr>
<td>1</td>
<td>36,835</td>
<td>35,627</td>
</tr>
<tr>
<td>2</td>
<td>31,659</td>
<td>31,161</td>
</tr>
<tr>
<td>3</td>
<td>26,227</td>
<td>26,132</td>
</tr>
<tr>
<td>4</td>
<td>20,580</td>
<td>20,708</td>
</tr>
<tr>
<td>5</td>
<td>14,894</td>
<td>15,011</td>
</tr>
<tr>
<td>6</td>
<td>9,693</td>
<td>9,761</td>
</tr>
<tr>
<td>7</td>
<td>5,562</td>
<td>5,626</td>
</tr>
<tr>
<td>8</td>
<td>2,176</td>
<td>2,237</td>
</tr>
</tbody>
</table>

B

![Graph showing comparative survival rates.](image)
Survival (solid line) after AAA surgery (936 patients)
Red Open, Blue EVAR, Shaded area 95% CI
Shared Decision Making
Consultations

1. Checklist
   - Safety

2. Medical Diagnosis
   - Medical Treatment

3. Shared Decision Making
   - Patient Choice
SDM for High Risk Surgery

• Diagnosis is often already made
• Provide personalised information and data
• Help them understand this information
• Find out the relevance this has to their lives
• Go through their options or choices
• Make a plan of action
Post operative HDU care
Case-controlled study of critical care or surgical ward care after elective open colorectal surgery
M. Swart and J. B. Carlisle BJS December 2011

More cardiac events occurred in patients allocated to ward care (7/39) than to critical care (0/51), absolute difference 18%, 95% CI 10-26%, P=0.0021.

<table>
<thead>
<tr>
<th>Anaerobic Threshold</th>
<th>Post Operative Destination</th>
<th>No adverse cardiac event</th>
<th>Yes adverse cardiac event</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt; 10.9 ml O₂ kg⁻¹ min⁻¹</td>
<td>Ward not randomised</td>
<td>55</td>
<td>0</td>
<td>55</td>
</tr>
<tr>
<td>&lt; 11 ml O₂ kg⁻¹ min⁻¹</td>
<td>Randomised to ward care</td>
<td>32</td>
<td>7</td>
<td>39</td>
</tr>
<tr>
<td>&lt; 11 ml O₂ kg⁻¹ min⁻¹</td>
<td>Randomised to critical care</td>
<td>51</td>
<td>0</td>
<td>51</td>
</tr>
</tbody>
</table>
Factors associated with survival after resection of colorectal adenocarcinoma in 314 patients Carlisle BJA 2012

Fig 2 The Kaplan–Meier survival curves for patients who were (207) or were not (107) assessed in the preoperative high-risk clinic. Patients were referred to the clinic by surgeons or specialist nurses. Patients assessed in the high-risk clinic were significantly older and had higher ASA grades.
Define the admission criteria for HDU

• If you don’t define it you can not study it
• Start with elective surgery
Categorisation of elective high risk surgery in Torbay

<table>
<thead>
<tr>
<th>Category</th>
<th>Predicted 30-day mortality</th>
<th>If no CCU bed</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>&gt;7 %</td>
<td>Do not proceed</td>
</tr>
<tr>
<td>B</td>
<td>4-6 %</td>
<td>Think very hard before you proceed without a bed</td>
</tr>
<tr>
<td>C</td>
<td>1-3 %</td>
<td>Discuss before proceeding without a bed</td>
</tr>
<tr>
<td>D</td>
<td>&lt; 1 %</td>
<td>Ward</td>
</tr>
</tbody>
</table>
The Ideal HDU

Level 2 monitoring and support

Access to physiotherapy and OT for ERAS

Friends and family present and feel comfortable to visit

Feel safe in a calm, quiet environment to aid rest and sleep

Shelter, warmth, food, private access to toilet and washing facilities
Thank You: michael.swart@nhs.net
Wrong patient surgery

• Surgery prolongs life, removes pain and improves quality of life

• High risk surgical patients have an increased chance that surgery may shorten life, increase pain and worsen quality of life

• Identifying high risk surgical patients and shared decision making reduces wrong patient surgery
THR and TKR reduces pain, improves mobility and may prolong life

- 8/10 better, 1/10 no change, 1/10 worse (PROMS)
- 120,000 primary THR and TKR per year (BOA)
- 12,000 patients worse per year

- Bad outcomes are bad for individual patients
- Bad outcomes are bad for all of us
South Devon and Torbay CCG
Torbay and South Devon Foundation Trust

- MSK problem
  Patients self refer to Physiotherapy

- Lifestyle referral

- OA Hip or Knee
  Extended Scope of Practice Physiotherapist

- Right Care SDM

- SDM Clinic

- Treat as appropriate or list for surgery

- High Risk and possible THR or TKR
  Perioperative Medicine Clinic