Ambulatory Emergency Care
An Update
Ambulatory Emergency Care
an update

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Clinical Lead, ECIST
Clinical Advisor NHSi AEC Network
What’s in a name?

- Ambulatory Emergency Care
- Clinical Decisions Units
- Same Day Emergency Care

“There’s nothing wrong with you — you’re a Picasso.”
Background

- Ambulatory Emergency Care is a way of managing a significant proportion of emergency patients on the same day without admission to a hospital bed.

- It is a transformational change in care delivery – AEC has the potential to be as significant to emergency care as day case surgery is to elective care.

Update available soon
It builds on existing NHS Institute offers

Data that is available on the NHS Institute website shows the potential tariff savings related to the conditions in the directory for each NHS organisation.

<table>
<thead>
<tr>
<th>Row Labels</th>
<th>Total current ambulatory: 0 day spells</th>
<th>Total ALL ambulatory spells</th>
<th>Minimum shift Potential: 0 Day Spells</th>
<th>Maximum shift Potential: 0 Day Spells</th>
<th>Ambulatory Potential for all non-0 Day Spells</th>
<th>Sum of Opportunity - Low (£)</th>
<th>Sum of Opportunity - High (£)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ealing Hospital NHS Trust</td>
<td>792</td>
<td>1530</td>
<td>82</td>
<td>262.0</td>
<td>17.12%</td>
<td>£47,112</td>
<td>£173,152</td>
</tr>
<tr>
<td>Northumbria Healthcare NHS Foundation Trust</td>
<td>1959</td>
<td>4502</td>
<td>313</td>
<td>1027.3</td>
<td>22.82%</td>
<td>£213,940</td>
<td>£723,752</td>
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<tr>
<td>Newham University Hospital NHS Trust</td>
<td>804</td>
<td>1892</td>
<td>140</td>
<td>449.1</td>
<td>23.74%</td>
<td>£73,386</td>
<td>£247,368</td>
</tr>
<tr>
<td>Southampton University Hospitals NHS Trust</td>
<td>1401</td>
<td>3290</td>
<td>254</td>
<td>831.8</td>
<td>25.28%</td>
<td>£99,746</td>
<td>£459,594</td>
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<tr>
<td>Chelsea and Westminster Hospital NHS Foundation Trust</td>
<td>580</td>
<td>1413</td>
<td>100</td>
<td>366.1</td>
<td>25.91%</td>
<td>£41,769</td>
<td>£155,899</td>
</tr>
</tbody>
</table>

We also have the data down to condition level for each organisation.

<table>
<thead>
<tr>
<th>Airedale NHS Foundation Trust</th>
<th>14</th>
<th>9</th>
<th>*</th>
<th>*</th>
<th>30</th>
<th>0.0</th>
<th>0%</th>
<th>4.0</th>
<th>13%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Airedale NHS Foundation Trust Acute headache</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Airedale NHS Foundation Trust Acute painful bladder out</td>
<td>*</td>
<td>9</td>
<td>8</td>
<td>*</td>
<td>23</td>
<td>10.8</td>
<td>47%</td>
<td>17.7</td>
<td>77%</td>
</tr>
<tr>
<td>Airedale NHS Foundation Trust Acutely hot painful joint</td>
<td>*</td>
<td>*</td>
<td>0</td>
<td>*</td>
<td>8</td>
<td>0.0</td>
<td>0%</td>
<td>1.6</td>
<td>20%</td>
</tr>
<tr>
<td>Airedale NHS Foundation Trust Anaemia</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Airedale NHS Foundation Trust Appendicular fractures not</td>
<td>*</td>
<td>7</td>
<td>*</td>
<td>11</td>
<td>25</td>
<td>12.0</td>
<td>48%</td>
<td>19.5</td>
<td>78%</td>
</tr>
<tr>
<td>Airedale NHS Foundation Trust Asthma</td>
<td>6</td>
<td>8</td>
<td>*</td>
<td>16</td>
<td>*</td>
<td>0.1</td>
<td>0%</td>
<td>4.5</td>
<td>13%</td>
</tr>
<tr>
<td>Airedale NHS Foundation Trust Cellulitis</td>
<td>*</td>
<td>*</td>
<td>9</td>
<td>34</td>
<td>51</td>
<td>25.6</td>
<td>50%</td>
<td>40.9</td>
<td>80%</td>
</tr>
<tr>
<td>Airedale NHS Foundation Trust Chest pain</td>
<td>105</td>
<td>105</td>
<td>17</td>
<td>25</td>
<td>252</td>
<td>0.6</td>
<td>0%</td>
<td>46.2</td>
<td>18%</td>
</tr>
</tbody>
</table>

These data suggest that the potential tariff savings related to ambulatory emergency care is in the region of **£373 million per year**.
but its not all about money

• Its about
  – Improving patient experience
  – Reducing waits for tests
  – Early and frequent senior review
  – Improving patient flow

• And so better outcomes for patient
<table>
<thead>
<tr>
<th>Date</th>
<th>Key events</th>
</tr>
</thead>
<tbody>
<tr>
<td>1909</td>
<td>James Nicoll, a Glasgow surgeon, publishes ‘The surgery of infancy’ in the <em>British Medical Journal</em></td>
</tr>
<tr>
<td>1916</td>
<td>Ralph Waters opens his ‘downtown anaesthesia clinic’ in Sioux City, Iowa</td>
</tr>
<tr>
<td>1951</td>
<td>The first hospital-based day surgery unit is opened in Grand Rapids, Michigan</td>
</tr>
<tr>
<td>1955</td>
<td>Eric Farquharson, an Edinburgh surgeon, publishes a series of 458 consecutive day case inguinal hernia repairs in <em>The Lancet</em></td>
</tr>
<tr>
<td>1969</td>
<td>The first free-standing ambulatory surgical centre is opened in Phoenix, Arizona</td>
</tr>
<tr>
<td>1969</td>
<td>James Calnan opens the first day unit in the UK at the Hammersmith Hospital, London</td>
</tr>
<tr>
<td>1985</td>
<td>The Royal College of Surgeons of England suggest a 50% target for elective surgical procedures to be performed as day cases</td>
</tr>
<tr>
<td>1989</td>
<td>The British Association of Day Surgery (BADS) is formed</td>
</tr>
<tr>
<td>1991</td>
<td>Audit Commission <em>Basket of 20</em> published</td>
</tr>
<tr>
<td>1993</td>
<td>National Day Surgery Task Force suggests a 60% target for day surgery</td>
</tr>
<tr>
<td>1995</td>
<td>International Association of Ambulatory Surgery formed</td>
</tr>
<tr>
<td>2001</td>
<td>Audit Commission <em>Basket of 25</em> published</td>
</tr>
<tr>
<td>2006</td>
<td>Modernization Agency indicates a 75% target for day surgery</td>
</tr>
<tr>
<td></td>
<td>BADS Directory of Procedures published</td>
</tr>
</tbody>
</table>

*Slide courtesy of Dr Ian Smith, President of BADS*
Day Case Awake Craniotomy for Tumour Resection

CRISPIN WEIDMANN & PAUL GRUNDY

Keywords: New day surgery procedures, Neurosurgery Case report

Abstract:
We report a patient who underwent an image-guided awake craniotomy for tumour resection and was discharged home the same day. We believe this is the first day case craniotomy for resection of an intracranial tumour described in the United Kingdom

Introduction

Awake craniotomy is becoming more popular for suprasellar tumour resection. Cortical mapping allows identification of functional areas, such as motor cortex, sensory cortex or speech areas, to be identified and preserved, facilitating maximal tumour resection while minimising the risk of permanent deficit. Day case awake cranietomies have been undertaken for a number of years in other international centres and the concept of awake craniotomy being performed on a day case basis in the United Kingdom has been suggested previously. However, we believe this is the first such case actually performed for tumour resection.

Case Report

In December 2006, a 47 year old right-handed female presented with a history of local seizures causing head and visual disturbance. She had a past history of breast cancer. Radiological investigations revealed a 15 x 2.0 cm subfrontal lesion in the left parietal region close to the surface. The mass was uniformly enhancing with surrounding oedema and lay anteriorly in, or close to, the parietal area.

Following a multidisciplinary meeting and discussion with the patient, neurosurgical resection was advised, prior to further advanced therapy. In view of the location, surgery was performed with the patient awake to facilitate cortical mapping and identification of speech and sensory cortex in order to minimise the risk of permanent deficit and allow maximal tumour resection. Preparation for surgery began in the neurosurgical outpatient clinic. Extensive consultation was undertaken and the patient was given verbal and written information about the procedure. This was reinforced by a preoperative anaesthetic assessment on the day of admission. Following consent, premedication of midazolam, 150 mg and meperidine, 10 mg, were given prior to surgery, essentially minimising the risk of gastric aspiration.

In the anaesthetic room standard monitoring was placed, including noninvasive blood pressure, ECG, and pulse oximetry. A single large bore intravenous cannula was sited. No intravenous monitoring was used and no urinary catheter was placed. To supplement anaesthesia, midazolam 2 mg was given intravasally. Identification and marking of the optimal skin incisions on the patient’s skull was followed by induction of an infra-clinoid general anaesthetic using a plasma site target controlled infusion (TCI) of propofol at 4 μg/ml in combination with fentanyl 0.1 μg/ml running at 20 μg/hr. During this short anaesthetic, bag and mask ventilation was provided to maintain gas exchange.

As loss of cerebral reflex, 2 ml of 1% lidocaine was injected into the scalp at each identified pin site for the Marfield clamp. Once the clamp was in position, the TCI propofol was turned off and the patient allowed to awaken before being transferred to the operating theatre.

The patient was placed in the right lateral position and the Marfield clamp was secured to the operating table. Monitoring was commenced, and supplemental oxygen was given via a Hudson mask at 31 min. In addition, a gas sampling line was inserted into the side of the mask to give a guide of the expired partial pressure of carbon dioxide. With the patient now fully awoken, any pain or discomfort was ascertained. TCI propofol was recommenced with a plasma target of 0.7 μg/ml and rhamphodin was continued at 20

Weidmann & Grundy — J One-day Surg 16, 49, 2006

Amphenol Address
CRISPIN WEIDMANN Consultant Neurosurgeon	
PAUL GRUNDY Consultant Neurosurgeon
University Department of Neurosurgery, Southampton University Hospitals Trust, Totton Rd, Southampton, S26 6YH
The *Amb* Score

<table>
<thead>
<tr>
<th>FACTORS</th>
<th>1 if applicable</th>
<th>0 if not applicable</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female sex</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age &lt; 80 years</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Has access to personal / public transport</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IV treatment <em>not</em> anticipated by referring doctor</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not acutely confused</td>
<td></td>
<td></td>
</tr>
<tr>
<td>MEWS score = 0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not discharged from hospital within previous 30 days</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**TOTAL Amb Score (Maximum 7)**

If Score is high, consider re-direct to ambulatory care unit

* Ala L, Mack J, Shaw R, Gasson A. The Amb Score: A pilot study to develop a scoring system to identify which emergency medical referrals would be suitable for Ambulatory care management. *Acute Medicine* 2010; 9: 139 (Abstract)
Models of AEC – 4Ps

• Passive
  – receive referrals

• Pathway driven
  – restricted to particular agreed pathways

• Pull
  – senior clinician takes calls for emergency referrals

• Process driven
  – all patients considered for AEC
Leicester model for older people

- Elderly Frail Unit / Frail Older People Acute Liaison
- Based in A&E
- Consultant geriatrician
- Single Point of Access
- Comprehensive Geriatric Assessment

- Contact Dr Simon Conroy
Personalised Ambulatory Emergency Care

- Individual Care plans
- Frequent attenders
  - Addison’s
  - Diabetes
- Unusual clinical conditions
  - Acute Intermittent Porphyria
  - Inherited metabolic Disorders
The A&E Clinical Quality Indicators
Ambulatory Care -
A complex & confusing measure

- Ambulatory Care for emergency conditions: the percentage of A&E attendances for cellulitis and DVT that end in admission.
- Ambulatory Care Sensitive Conditions: the number of admissions for cellulitis and DVT per head of the weighted population.
- Balancing metric: the percentage of patients with cellulitis and DVT who are subsequently admitted in the following 7 days following discharge from A&E.
- Comparison of absolute and relative rates to understand the effect of primary care delivered services.
Good practice: assess scope to improve ambulatory emergency care performance, but go beyond DVT and cellulitis

Respiratory Conditions Coded on Admission

- Deep Vein Thrombosis
- Pulmonary Embolism
- Pneumothorax
- Pleural Effusions
- Asthma
- COPD
- Community acquired pneumonia
- LRTI (W/O COPD)

Percentage

Condition

Target - Lower 2009

2010 Target - Upper

– a real example
Delivering DVT – good practice

- There is wide variation in admissions with a high potential for ambulatory care (up to 90% of traditional admissions)
- Use current resources e.g. Directory of Ambulatory Emergency Care for Adults
- Understand existing local services
  - clinical lead to clinical lead discussion
  - Acute/community/primary care/ multiple providers
- Is there an evidence based pathway? Referral in, investigations, follow up
- Analyse current services to understand the need for service development
- Link A&E to the DVT service
  - direct booking/telephone referral/written referral
  - Agree protocols, criteria for ambulatory care
  - Initiating the pathway in A&E
• Patient & staff information
  - Are staff aware? Is the contact number available? Are the clinical criteria available? Who does the patient contact if concerns?
• How does it function out of hours?
  – must remain easily accessible
• Accurate diagnosis and coding
  – not all swollen legs are DVT
  - Query DVT/ Bakers cyst/cellulitis/gravitational syndrome/heart failure/osteoarthritis
  - Pathways for swollen legs post-op may be different
• Frail elderly – home care with district nurse
Delivering cellulitis – good practice

- 60-90% of cases can be managed on ambulatory pathways
- Understand existing services and how they are provided
- Is there an evidence based pathway with clinical criteria and out of hours care? Does this cover initial therapy, IV access & choice of antibiotic
- What are the success criteria? Are they aligned to the CQI?
- Gap analysis to identify the need for service development
- Confirmation of diagnosis
  - Is it accurate? Beware of recurrent or bilateral cellulitis.
- Co-morbidities
  - diabetic foot ulceration, venous eczema, wounds, foot deformities
  - are additional services needed to support ambulatory care? Dressings, package of care, other clinical investigations
- Coding – precision, include co-morbidities
Best Practice Tariff

The aim of the BPT is to promote management of these scenarios on a same day basis in an ambulatory emergency care manner.
Retained Clinical Scenarios for Best Practice Tariff

- cellulitis
- pulmonary embolism
- asthma
- acute headache
- chest pain
- lower respiratory tract infections without chronic obstructive pulmonary disease
- appendicular fractures not requiring immediate fixation
- renal/ureteric stones
- falls including syncope and collapse
- epileptic seizure (first & known)
- deliberate self harm
- deep vein thrombosis (DVT)
Expanding the list of clinical scenarios covered by the Same Day Emergency Care best practice tariff to include

- Transient ischaemic attack (TIA)
- Community acquired pneumonia
- COPD
- Supraventricular tachycardias
- Minor head injury
- Low risk pubic rami
- Bladder outflow obstruction
- Anaemia
- Abdominal pain
Each clinical scenario is made up of a pair of prices for each tariff

Same day emergency care - Zero day
Non-elective - >=1 day
Figure 1: Model of managing patients suitable for ambulatory emergency care

**Admission**

- **Yes**
  - Non-AEC
  - The aim of the BPT is to encourage move from scenario A to B
  - (A) Traditional clinical management that the BPT is aiming to change, where clinically appropriate.

- **AEC**
  - (B) The aim of the BPT in 2012-13 as a step toward (C)
  - It is not intended that the BPT impedes any shift to non-admitted setting
  - It is not expected that admissions increase as a result of the introduction of the BPT.

**Scenario**

- **Non-AEC**
  - (C) AEC in a non-admitted setting.

- **AEC**

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*Note: BPT stands for Bedside Parry Tool.*
### Same Day Emergency Care Rates

#### 75th Centile and National Average

<table>
<thead>
<tr>
<th>Clinical scenario</th>
<th>75th percentile rate</th>
<th>Current national average rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abdominal pain</td>
<td>40%</td>
<td>35%</td>
</tr>
<tr>
<td>Anaemia</td>
<td>16%</td>
<td>12%</td>
</tr>
<tr>
<td>Bladder outflow obstruction</td>
<td>30%</td>
<td>23%</td>
</tr>
<tr>
<td>Chronic obstructive pulmonary disease (COPD)</td>
<td>2.1%</td>
<td>1.6%</td>
</tr>
<tr>
<td>Community acquired pneumonia</td>
<td>12%</td>
<td>10%</td>
</tr>
<tr>
<td>Low risk pubic rami</td>
<td>13%</td>
<td>10%</td>
</tr>
<tr>
<td>Minor head injury</td>
<td>64%</td>
<td>56%</td>
</tr>
<tr>
<td>Supraventricular tachycardias (SVT) including atrial fibrillation (AF)</td>
<td>34%</td>
<td>29%</td>
</tr>
<tr>
<td>Transient ischaemic attack (TIA)</td>
<td>30%</td>
<td>26%</td>
</tr>
</tbody>
</table>
Benchmarking South Tees Performance against NHSi Directory
Do we need an AEC society?

Promote AEC
Maintain Quality & set standards
Share pathways & processes
Drive innovation
Influence national policy & pricing
Don’t get admitted!
If you would like to find out more....

If you would like to find out more or join the next Ambulatory emergency care delivery network, starting in Autumn 2012, please email us and we would be happy to talk to you:

emergencycare@institute.nhs.uk

vincent.connolly@stees.nhs.uk