The financial case demonstrates that the post will continue to maintain service in line with the current demands for the service.

1. Case for Change

The post is required in order to maintain RNOHT as a centre of clinical excellence and as the key destination for Peripheral Nerve Injury referrals in the UK. Strong underlying patient demand has been clearly identified and will ensure that the post is self-funding. The proposal provides an improved underpinning of one of the Trust's key services.

2. Rational, Introduction and Strategic Context

Professor Thomas Carlstedt will be retiring during the summer of 2012. This business case recognises that the continued delivery of the Peripheral Nerve Injury service requires that Professor Carlstedt is replaced prior to his departure in order to ensure that there is appropriate training and development of the new consultant.

3. Current Service Profile

The Peripheral Nerve Injury Unit established by Seddon, grew from the Specialist Nerve Injury Centres set up in the War by the Medical Research Council. Amongst those working with Seddon in the years after the War, were George Bonney, Donald Brooks and Philip Yeoman. At that time important links were established with the National Hospital for Nervous Diseases (Professor Roger Gilliatt, Professor PK Thomas and Professor Ruth Bowden). George Bonney joined the staff of St Mary's Hospital in 1958 and the Unit there soon took first place in the world in its work with injuries of the brachial plexus. Bonney pioneered the emergency repair of the brachial plexus when associated with major arterial injury and laid the first steps to work towards reconnection of the central and peripheral nervous system. Professor Birch was appointed to St Mary's Hospital and the RNOH in 1979 and worked for a number of years with George Bonney and with Donal Brooks. In 1991 the St Mary's Unit transferred to the RNOH. At that time Mr Marsh Denheiton held the position of Consultant Orthopaedic Surgeon. He was followed by Professor Thomas Carlstedt from the Karolinska Hospital in 1996. Mr Marco Sinisi joined us in 2004.

The PNI Unit is devoted to disorders of the peripheral nerves and the brachial plexus. Since 1991 there has been a steady increase in cases of obstetric brachial plexus palsy; cases of iatropathic nerve injuries and cases of tumours of peripheral nerves. There has also been an increase in the number of referrals of children with obstetric palsy in iatropathic nerve injuries, in nerve injured by
skeletal injury and in nerve tumours. This increase is against a continuing steady flow of traction lesions of the brachial plexus in adults, irradiation neuropathy and compression neuropathy. The referral rate for complicated lesions has been steady. Unfortunately, the incidence of accidental nerve injuries continues to increase and is now about 50% above the levels seen 4 – 5 years ago.

The unit is currently working to its full capacity and is efficient in managing the waiting list to ensure that emergency work and planned work occur in a timely manner to improve outcomes for patients. The work broadly comes under the following categories:

- **Emergency**: Open wound and or vascular, such as massive nerve injury
- **Urgent**: Admission within six weeks or less to treat tumours, causalgia, and major trunk nerve injuries
- **Routine/planned**: Elective operations to restore function and tetraplegia
- **Rehabilitation**: Admission to the Rehabilitation Unit on a planned basis for those who have had operations for nerve repair. This also includes patients with neuropathic pain.
- **An interest in tetraplegia** by Marco Sinisi and Thomas Carlstedt.

The successful applicant will take a full part in dealing with the case-load of the PNI Unit.

The PNI Unit of the RNOH is the largest of its kind within the UK and it has the largest world experience in emergency or urgent treatment of traction injuries of the brachial plexus in adults, in iatropathic nerve injuries and in tumours of peripheral nerves. It has acquired the largest UK experience in methods of reconstruction by musculo-tendinous transfer and in the treatment of the obstetric brachial plexus palsy. 80% of referrals are tertiary.

Links with other hospitals are central to the work of the Unit. Those with the National Hospital for Nervous Diseases include the Department of Neurophysiology (Dr Murray, Dr Smith, Dr Misra), with the Neurosurgeons (Professor Crockard, Mr Casey). There are active research links with Imperial College (Professor Anand) and with University College (Professor Carlstedt works with Professor MacMahon and Professor Raisman). A number of Fellows and Visiting Surgeons have joined the Unit from overseas over the years.

**Current Peripheral Nerve Injury Consultants:**

- Professor Thomas Carlstedt - 10 PAs per week
  
  Hand Surgery / Neurosurgery

- Mr Marco Sinisi - 11 PAs per week.
  
  Neurosurgery

- Mr Michael Fox - 11 PAs per week.
  
  Orthopaedic Surgery.

The Service runs weekly outpatient clinics at Bolsover Street and theatre lists at Stanmore.

**4. Service Demand and Market Analysis**

The Peripheral Nerve Injury Unit provides tertiary specialist surgical and non-surgical care. There are very few Consultant Surgeons with the expert knowledge, skills and experience of the PNI Unit clinicians currently at the RNOH. The PNI Unit accepts urgent infant and adult brachial plexus injuries, nerve injuries associated with civilian or military trauma or surgery. In addition it provides secondary reconstructive surgery and rehabilitation for the nerve injured patients. The PNI Unit is the only dedicated unit in England dealing exclusively with nerve injury. The referral rate is steadily increasing and the type of complex patients cannot be seen at a local DGH as expertise is not available.
Variance in Weekly Capacity and Demand, across the substantive surgeons in post at present.

<table>
<thead>
<tr>
<th></th>
<th>1st OPA</th>
<th>Follow-Up</th>
<th>Inpatient Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Demand</td>
<td>31</td>
<td>70</td>
<td>18</td>
</tr>
<tr>
<td>Capacity</td>
<td>30</td>
<td>60</td>
<td>15</td>
</tr>
<tr>
<td>Variance</td>
<td>-1</td>
<td>-10</td>
<td>-3</td>
</tr>
</tbody>
</table>

Table 1

The Peripheral Nerve Injury service is currently meeting the national waiting times targets for outpatients and inpatients. However referrals to the Unit have risen by 7% between 2008/09 and 2010/11. Additions to the inpatient waiting list have risen by 43% over the same period. The conversion rate of outpatients to inpatients is high at 45% for 2010/11 when compared to 36% for the Trust as a whole over the same period.

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Referrals received</td>
<td>1,192</td>
<td>1,254</td>
<td>1,285</td>
</tr>
<tr>
<td>1st Outpatient appointment</td>
<td>974</td>
<td>1,015</td>
<td>945</td>
</tr>
<tr>
<td>Added to waiting list</td>
<td>572</td>
<td>719</td>
<td>821</td>
</tr>
<tr>
<td>Elective Admissions</td>
<td>702</td>
<td>730</td>
<td>803</td>
</tr>
</tbody>
</table>

Table 2

5. Proposed service profile

The new Consultant will initially work closely with the current Consultants in the following outline weekly pattern. Theatre and outpatient sessions will be required. There is also a range of clerical/administrative and secretarial staff supporting the unit.

The service operates a six week rota and the new consultant will initially be expected to replace Professor Carlstedt’s current clinical commitments:

<table>
<thead>
<tr>
<th></th>
<th>AM</th>
<th>PM</th>
</tr>
</thead>
<tbody>
<tr>
<td>Monday</td>
<td>Ward Round</td>
<td>Operating list</td>
</tr>
<tr>
<td>Tuesday</td>
<td>Outpatient Clinic Bolsover St</td>
<td>Outpatient Clinic Bolsover St</td>
</tr>
<tr>
<td>Wednesday</td>
<td>Ward round</td>
<td>Operating list</td>
</tr>
<tr>
<td>Thursday</td>
<td>Rehabilitation Ward Round</td>
<td>Hammersmith Joint Clinic</td>
</tr>
<tr>
<td>Friday</td>
<td>Ward Round</td>
<td>Operating List</td>
</tr>
</tbody>
</table>

Table 3

On-call for the hospital – equivalent to 0.5 PA
6. Case for change

In order to continue providing a service that meets the NHS Plan waiting time targets for both outpatients and inpatients, a replacement Consultant Surgeon is required. Without this Consultant the RNOH cannot achieve or maintain the 18 week target. A new Consultant would work at a slower pace in order to ensure accuracy and competence will increase with ongoing experience. Therefore, with the money released by Professor Carlstedt retiring, this business case is aiming to secure a full-time Consultant Surgeon to work alongside Mr Fox and Dr Sinisi. Professor Carlstedt would specifically lead on the training of the new consultant, who will inevitably take time to achieve the level of activity and throughput currently associated with the Unit’s performance. Activity levels will reduce during the transitional phase from Professor Carlstedt to the new appointee but this will rise again with experience.

7. Resource & other implications

Financial implications

As this post is a replacement to a funded post it would not be expected that any additional recurrent resource will be required, however funding is required non-recurrently to appoint to the new role for the eight months prior to the retirement and this will be an additional financial cost to the Trust. Due to the current waiting list within PNI the new Consultant is expected to take on additional work over and above the current activity levels, which will contribute to their salary but the work is expected to be minimal and is currently not quantified. This financial cost may be less than the £73k requested as it is dependant upon the recruitment process finishing and the new consultant being in post at the scheduled time.

Additional secretarial support is required to support the increased workload that the new Consultant is expected to take on. This should be on a permanent basis and not just for the overlap period, since there is a shortfall in secretarial support within the unit, currently at 2.80 WTE for 3 full time consultants.

Table – Revenue Impact

<table>
<thead>
<tr>
<th>Revenue Type/ Department</th>
<th>WTE</th>
<th>Recurrent Costs £k</th>
<th>Non-Recurrent Costs £k</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pay</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Consultant for 8 months</td>
<td>1.00</td>
<td>73.0</td>
<td></td>
</tr>
<tr>
<td>Secretary Band 4</td>
<td>0.20</td>
<td>5.9</td>
<td></td>
</tr>
<tr>
<td>Non-Pay</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Costs</td>
<td>5.90</td>
<td>73.0</td>
<td></td>
</tr>
<tr>
<td>Total NHS Patient Income</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Contribution (beneficial/adverse +/-)</td>
<td>£ 5.9k</td>
<td>£ 73k</td>
<td></td>
</tr>
</tbody>
</table>

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8. Service benefits and risks

Benefit to purchasers / patients:

- The overlap between recruitment of a full time surgeon and the retirement of Professor Carlstedt will ensure minimal disruption to the service and should maintain the 18 week position.
- Impact on the wards is minimal as the volume is small (three cases).
- Maintain the Peripheral Nerve Injury Unit as a centre of clinical excellence.
- Continuing provision of specialist care to meet patient demand.
- Maintain levels of current activity.
- Maintain current level of academic and teaching commitments.

Risks of not undertaking change:

- The Trust would not be able to provide the services appropriate to patient need.
- The Trust will not have access to specialist consultant staff to maintain the service to meet patient demand.
- Patients would not be treated within 18 weeks.
- No financial gain for the organisation and a loss of revenue.
- No succession planning for a retiring Consultant leaving a skills gap in the existing service.

9. Timetable and deliverability

- Executive Committee approval – August 2011
- Trust Board approval to proceed to advertisement (Performance Committee) – August 2011
- Trust Board endorsement September Board (4th October 2011)
- Advertisement – August 2011
- Interviews & recruitment – September 2011
- Start date – December 2011

10. Recommendation

- Recruitment is undertaken to appoint a 1.0 WTE consultant to succeed Professor Carlstedt
- The 2011/12 revenue budgets and establishment are amended to reflect table 5.
- The revenue budgets are amended from November 2011 to enable this appointment to be made.

Lynn Hill
Director of Operations & Transformation
August 2011