Guidelines agreed by:

<table>
<thead>
<tr>
<th>Position:</th>
<th>Thyroid Subgroup Chair</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name:</td>
<td>Mr S Aspinall, Northumbria Healthcare Trust NHS FT</td>
</tr>
<tr>
<td>Date Agreed:</td>
<td>26.06.15</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Position:</th>
<th>Thyroid Subgroup Vice Chair</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name:</td>
<td>Dr S Nag, South Tees Hospitals NHS FT</td>
</tr>
<tr>
<td>Date Agreed:</td>
<td>29.06.15</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Position:</th>
<th>Medical Director</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name:</td>
<td>Dr M Prentice</td>
</tr>
<tr>
<td>Organisation:</td>
<td>Cumbria, Northumberland, Tyne and Wear Area Team</td>
</tr>
<tr>
<td>Date Agreed:</td>
<td>29.06.15</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Position:</th>
<th>Chair of the Head and Neck NSSG</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name:</td>
<td>Dr E Aynsley</td>
</tr>
<tr>
<td>Organisation:</td>
<td>South Tees NHS FT</td>
</tr>
<tr>
<td>Date Agreed:</td>
<td>29.06.15</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Position:</th>
<th>CYPCG Chair for:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name:</td>
<td>Liz Rogerson, Assistant Director of Specialised Commissioning</td>
</tr>
<tr>
<td>Organisation:</td>
<td>NHS England in Cumbria and the North East</td>
</tr>
<tr>
<td>Date Agreed:</td>
<td>29.06.15</td>
</tr>
</tbody>
</table>

Thyroid Subgroup members agreed the Guidelines on:

<table>
<thead>
<tr>
<th>Date Agreed:</th>
<th>Email sent to the group 29.06.15 for endorsement at the next meeting</th>
</tr>
</thead>
<tbody>
<tr>
<td>Review Date:</td>
<td>May 2016</td>
</tr>
<tr>
<td>CONTENTS</td>
<td>PAGE</td>
</tr>
<tr>
<td>-------------------------------------------------------------------------</td>
<td>------</td>
</tr>
<tr>
<td>14-1C-207i  Network Agreed Clinical Guidelines</td>
<td>4</td>
</tr>
<tr>
<td>14-1C-208i  Network Agreed Pathology Guidelines for Thyroid Cancer</td>
<td>4</td>
</tr>
<tr>
<td>14-1C-206i  Network Agreed Policy Regarding which Named Surges Perform</td>
<td>5</td>
</tr>
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<td>Lymph Node Resections on Thyroid Cancer Patients</td>
<td></td>
</tr>
<tr>
<td>14-1C-201i  Policy for Named Hospitals for Head and Neck Cancer</td>
<td>5</td>
</tr>
<tr>
<td>14-1C-202i  Network Configuration of Services</td>
<td>7</td>
</tr>
<tr>
<td>14-1C-208i  Referral Guidelines for Primary Care Practitioners</td>
<td>11</td>
</tr>
<tr>
<td>14-1C-208i  The TYACN Pathway for Initial Management</td>
<td>12</td>
</tr>
<tr>
<td>14-1C-208i  the TYA Pathway for Follow Up on Completion of First Line Treatment</td>
<td>12</td>
</tr>
<tr>
<td>Appendix 1 Patient Pathway</td>
<td>13</td>
</tr>
<tr>
<td>Appendix 2 - NECN GUIDELINES 2010 - Imaging in Thyroid nodule disease and Thyroid Cancer</td>
<td>21</td>
</tr>
<tr>
<td>Appendix 3 - Radiology imaging of (Possible) Thyroid malignancy – outside MDT</td>
<td>23</td>
</tr>
<tr>
<td>Appendix 4 – Pathology Guidelines</td>
<td>26</td>
</tr>
<tr>
<td>Appendix 5 – Referral Guidelines for Primary Care</td>
<td>36</td>
</tr>
<tr>
<td>Appendix 6 – Chemotherapy Algorithm</td>
<td>43</td>
</tr>
<tr>
<td>Appendix 7 - NSSG Guidelines for Teenage and Young Adults</td>
<td>51</td>
</tr>
</tbody>
</table>
14-1C-207i Network Agreed Clinical Guidelines

In consultation with the MDTs, the Subgroup has agreed to adopt the revised national guidelines (BTA 2014) and Revised American Thyroid Association Management Guidelines for management of differentiated Thyroid Cancer (THYROID Volume 19, Number 11, 2009). In addition, the NSSG has agreed network-wide clinical arrangements to manage patients. In July 2010, the group agreed to adopt the pathway used in the north for all patients throughout the Network.

See Appendix 1 for Thyroid pathway.

Network Agreed Imaging Guidelines for Thyroid cancer

The Subgroup has agreed the network-wide imaging guidelines for the diagnosis and assessment of thyroid cancer.

Diagnosis and assessment services outside the MDT are required to produce sufficient information to merit referral to the MDT. Following which, the MDT will undertake further investigations as appropriate in order to produce a definitive treatment plan as per protocol. It is undesirable for investigations to proceed outside the MDT once a cancer diagnosis is reached.

See Appendix 2 for Imaging Guidelines and Appendix 3 for Radiology imaging of (Possible) Thyroid malignancy – outside MDT.

14-1C-208i Network Agreed Pathology Guidelines for Thyroid Cancer

Histopathology Standards:

Histopathology departments should have access to specimen photography facilities.

Histopathology procedures and reporting should be as described in the RCPath guidelines for thyroid cancer reporting.

Histopathology laboratories should work towards nationally defined accreditation standards. It is desirable that Pathologists reporting thyroid cancer routinely should participate in a relevant EQA National scheme.

It is the responsibility of the operating surgeon to ensure that the specimen is orientated and marked for the pathologist as agreed locally, and to ensure that the pathologist is informed of any preoperative treatments, as these may influence histopathological interpretation.

See Appendix 4 for Pathology Guidelines.
Network Agreed Policy Regarding which Named Surgeons Perform Lymph Node Resections on Thyroid Cancer Patients

<table>
<thead>
<tr>
<th>Hospital Trust</th>
<th>Named Surgeons</th>
</tr>
</thead>
</table>
| Newcastle                      | Mr A Welch, Consultant ENT Surgeon  
Mr V Paleri, Consultant Surgeon  
Mr R Bliss, Consultant Surgeon  
Prof T Lennard, Consultant Surgeon |
| Northumbria                    | Mr S Aspinall, Consultant Surgeon                                               |
| Sunderland (including South Tyneside & Gateshead) | Mr T Leontsinis, Consultant ENT Surgeon  
Ms H Cocks, ENT Consultant |
| County Durham & Darlington     | Mr V Shanker, Consultant ENT Surgeon  
Mr G Tervitt, Consultant Surgeon  
Mr A Bhatti, Consultant Surgeon |
| South Tees                     | Mr W M Elsaify, Consultant Endocrine Surgeon                                   |
| North Tees                     | Mr V Kurup, Consultant Surgeon                                                  |
| Cumbria                        | Mr P Counter, Consultant ENT Surgeon                                             |

The British Association of Endocrine and Thyroid Surgeons (BAETS) recommends that surgeons need to perform 20 to 30 Thyroidectomies per year to maintain competency. The Thyroid NSSG will use this definition to identify low volume Thyroid surgeons.

Policy for Named Hospitals for Head and Neck Cancer

The NSSG, in consultation with commissioners head and neck cancer, has agreed with the PCTs in the Network, a policy that the diagnosis and assessment of patients with head and neck cancer symptoms should only take place in certain ‘designated hospitals; which fulfil the following criteria:

- They have specialised facilities for the investigation of head and neck patients
- They have contracted direct patient care sessions with at least two ‘designated clinicians’ for head and neck diagnosis and assessment
- They are the only hospitals for which there are contact points specified in the primary care referral guidelines for head and neck cancer.

See Table 1 below:
### Table 1 - Policy and the Named Hospitals for Head and Neck Cancer

<table>
<thead>
<tr>
<th>Area</th>
<th>CCG populations</th>
<th>Designated Hospital – Head and Neck</th>
<th>Designated Hospital - Thyroid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Newcastle West</td>
<td>144</td>
<td>Freeman Hospital</td>
<td>Freeman Hospital</td>
</tr>
<tr>
<td>Newcastle North &amp; East</td>
<td>143</td>
<td>Freeman Hospital</td>
<td>Royal Victoria Infirmary</td>
</tr>
<tr>
<td>North Tyneside</td>
<td>202</td>
<td>Freeman Hospital</td>
<td>North Tyneside General Hospital</td>
</tr>
<tr>
<td>Northumberland</td>
<td>316</td>
<td>North Tyneside District Hospital</td>
<td>Palmer Community Hospital</td>
</tr>
<tr>
<td>South Tyneside</td>
<td>149</td>
<td>South Tyneside District Hospital</td>
<td>Palmer Community Hospital</td>
</tr>
<tr>
<td>Sunderland</td>
<td>276</td>
<td>Sunderland Royal Hospital</td>
<td>Sunderland Royal Hospital</td>
</tr>
<tr>
<td>Gateshead</td>
<td>200</td>
<td>Queen Elizabeth Hospital</td>
<td>Queen Elizabeth Hospital</td>
</tr>
<tr>
<td>Durham Dales, Easington &amp; Sedgefield</td>
<td>273</td>
<td>Darlington Memorial Hospital</td>
<td>Darlington Memorial Hospital</td>
</tr>
<tr>
<td>Darlington</td>
<td>105</td>
<td>Sunderland Royal Hospital</td>
<td>University Hospital of North Durham Shotley Bridge Hospital</td>
</tr>
<tr>
<td>North Durham</td>
<td>243</td>
<td>Sunderland Royal Hospital</td>
<td>University Hospital of North Tees</td>
</tr>
<tr>
<td>South Tees</td>
<td>274</td>
<td>James Cook University Hospital</td>
<td>James Cook University Hospital</td>
</tr>
<tr>
<td>Hambleton, Richmondshire &amp; Whitby</td>
<td>154</td>
<td>James Cook University Hospital</td>
<td>James Cook University Hospital</td>
</tr>
<tr>
<td>Stockton</td>
<td>193</td>
<td>James Cook University Hospital</td>
<td>University Hospital of North Tees</td>
</tr>
<tr>
<td>Hartlepool</td>
<td>93</td>
<td>James Cook University Hospital</td>
<td>University Hospital of Hartlepool</td>
</tr>
<tr>
<td>Cumbria</td>
<td>328</td>
<td>Cumberland Infirmary</td>
<td>Cumberland Infirmary</td>
</tr>
</tbody>
</table>

* - 2013 Mid Year Population Estimates

Please note:
Across NECN, Endocrine Surgeons also operate on Thyroid Cancer in addition to Head and Neck Surgeons
### Network Configuration of Services

#### Table 2 - MDTs/Case Mix

<table>
<thead>
<tr>
<th>Trust</th>
<th>Designated MDT</th>
<th>Case Mix</th>
</tr>
</thead>
<tbody>
<tr>
<td>South Tees Hospitals NHS FT</td>
<td>James Cook University Hospital</td>
<td>Upper Aero-digestive Tract dealing with one or more of salivary gland tumours</td>
</tr>
<tr>
<td>North Tees &amp; Hartlepool NHS FT</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Co Durham &amp; Darlington FT (South)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Newcastle Upon Tyne Hospitals NHS FT</td>
<td>Freeman Hospital</td>
<td>Upper Aero-digestive Tract dealing with one or more of salivary gland tumours; UAT cancer involving skull base</td>
</tr>
<tr>
<td>Northumbria Healthcare NHS FT</td>
<td></td>
<td></td>
</tr>
<tr>
<td>North Cumbria University Hospitals NHS FT</td>
<td></td>
<td></td>
</tr>
<tr>
<td>City Hospitals Sunderland NHS FT</td>
<td>Sunderland Royal Hospital</td>
<td>Upper Aero-digestive Tract dealing with Salivary gland tumours</td>
</tr>
<tr>
<td>Co Durham &amp; Darlington NHS FT (North)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gateshead Health NHS FT</td>
<td></td>
<td></td>
</tr>
<tr>
<td>South Tyneside NHS FT</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Neck Lump Clinics

The NSSG, in consultation with the commissioners and the NSSG for haematological malignancy, has agreed the location of neck lump clinics (see table 3 below) which fulfil the following criteria:

- They are the clinics named for referral of patients with neck lumps in the primary care referral guidelines
- They are hosted by a designated hospital
- They are distributed such that the commissioners agree their populations have sufficient access
- It has been agreed for each clinic whether it will have clinicians designated for thyroid cancer and assess patients with thyroid lumps.
<table>
<thead>
<tr>
<th>Area</th>
<th>CCG populations</th>
<th>Designated Hospital</th>
<th>Neck Lump Clinic Location</th>
<th>Contact Points</th>
<th>Designated Lead Clinicians</th>
<th>Haematology oncologists with direct care sessions timetabled for the clinic</th>
<th>MDT Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Newcastle West</td>
<td>144</td>
<td>Freeman Hospital (FH)</td>
<td>Freeman Hospital</td>
<td>GDP - FH</td>
<td>Mr A Welch</td>
<td>Dr A Lennard Dr G Jackson Dr G Jones Dr T Menne (do not attend clinic-contactable by phone/bleep only)</td>
<td>Freeman Hospital</td>
</tr>
<tr>
<td>Newcastle North &amp; East</td>
<td>143</td>
<td></td>
<td></td>
<td>2 week wait central office</td>
<td>Mr V Paleri Mr D Mokle Mr Adams</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Northumberland</td>
<td>316</td>
<td>Cumberland Infirmary</td>
<td>Cumberland Infirmary</td>
<td>2 week central office</td>
<td>Mr J Elliott Mr A Robson Mr G Putnam Mr P Counter</td>
<td>H Obrien R Oakes Locum (do not attend clinic-contactable by phone/bleep)</td>
<td></td>
</tr>
<tr>
<td>North Tyneside</td>
<td>202</td>
<td>Cumberland Infirmary</td>
<td>Cumberland Infirmary</td>
<td>2 week central office</td>
<td>Mr J Elliott Mr A Robson Mr G Putnam Mr P Counter</td>
<td>H Obrien R Oakes Locum (do not attend clinic-contactable by phone/bleep)</td>
<td></td>
</tr>
<tr>
<td>Sunderland</td>
<td>276</td>
<td>Sunderland Royal Hospital (SRH)</td>
<td>Sunderland Royal Hospital (SRH)</td>
<td>Appointments Office</td>
<td>Mr R Banks Mr C Hartley Ms H Cocks Mr I C Martin Mr A Blums Mr J O’Hara</td>
<td>V Hervey (does not attend clinic-but contactable as liaison haematologist)</td>
<td>SRH Friday AM</td>
</tr>
<tr>
<td>North Durham</td>
<td>243</td>
<td>Palmer Community Hospital</td>
<td>Palmer Community Hospital</td>
<td>Fax: 0191 2022191</td>
<td>Ms H Cocks Ms J Heaton Mr T Leontsinis Mr Pardeshi Mr A Blums Ms K Stone Miss N Jones</td>
<td>V Hervey (does not attend clinic-but contactable as liaison haematologist)</td>
<td></td>
</tr>
<tr>
<td>South Tyneside</td>
<td>149</td>
<td>South Tyneside DH</td>
<td>South Tyneside DH</td>
<td>Fax: 0191 2022191</td>
<td>Ms H Cocks Ms J Heaton Mr T Leontsinis Mr Pardeshi Mr A Blums Ms K Stone Miss N Jones</td>
<td>V Hervey (does not attend clinic-but contactable as liaison haematologist)</td>
<td></td>
</tr>
<tr>
<td>Gateshead</td>
<td>200</td>
<td>Queen Elizabeth Hospital</td>
<td>Queen Elizabeth Hospital</td>
<td>Choose &amp; Book Tel: 0345 6088888</td>
<td>Mr J Moir Ms H Cocks</td>
<td>S Marshall (does not attend clinic-but contactable by Bleep only)</td>
<td></td>
</tr>
<tr>
<td>Durham Dales, Easington &amp; Sedgefield</td>
<td>273</td>
<td>Darlington Memorial Hospital</td>
<td>Darlington Memorial Hospital</td>
<td>Choose &amp; Book Tel: 0345 6088888</td>
<td>Mr P Arul</td>
<td>Dr P Pews (unable to attend clinic however they are able to see the patient 24-48 hrs)</td>
<td>JCUH Tuesday AM</td>
</tr>
<tr>
<td>Darlington</td>
<td>105</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>South Tees</td>
<td>274</td>
<td>James Cook University Hospital (JCUH)</td>
<td>James Cook University Hospital (JCUH)</td>
<td>Tel: 01642 282853 Fax: 01642 282826</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hartlepool &amp; Stockton</td>
<td>286</td>
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<td></td>
<td></td>
<td></td>
<td></td>
</tr>
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<td>Hambleton, Richmondshire &amp; Whitby</td>
<td>154</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* - 2013 Mid Year Population Estimates
**Thyroid Clinics**

The NSSG, in consultation with the commissioners and the subgroup responsible for Thyroid Cancer has agreed the location of specialist thyroid clinics (see table 4 below) which fulfil the following criteria:

- They are the clinics named in the primary care referral guidelines for referral of patients with thyroid lumps only (as opposed to non-thyroid neck lumps as well)
- They are hosted by a designated hospital
- They are distributed such that, in combination with any neck lump clinics which also assess thyroid lumps, the commissioners agree their populations have sufficient access to thyroid cancer diagnosis and assessment.
**Table 4 - Referral Guidelines for Primary Care Practitioners - Thyroid Patients**

<table>
<thead>
<tr>
<th>Area</th>
<th>Population*</th>
<th>Designated Hospital</th>
<th>Thyroid Clinic Location</th>
<th>Contact Points</th>
<th>Designated Lead Clinicians</th>
</tr>
</thead>
<tbody>
<tr>
<td>Newcastle West</td>
<td>144</td>
<td>Freeman Hospital</td>
<td>Freeman Hospital</td>
<td>GDP - FH</td>
<td>Mr A Welch</td>
</tr>
<tr>
<td>Newcastle North &amp; East</td>
<td>143</td>
<td>Royal Victoria Infirmary</td>
<td>Royal Victoria Infirmary</td>
<td>2 week wait central office 0191 2331498 Choose &amp; Book Tel: 0345 608888</td>
<td>Mr V Paleri Mr R Bliss</td>
</tr>
<tr>
<td>Northumberland</td>
<td>316</td>
<td>Northumbria Specialist Emergency Care Hospital</td>
<td>North Tyneside Hospital Hexham General Hospital Wansbeck General Hospital</td>
<td>Fax: 0191 2934107</td>
<td>Mr M Carr</td>
</tr>
<tr>
<td>North Tyneside</td>
<td>202</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cumbria</td>
<td>328</td>
<td>Cumberland Infirmary</td>
<td>Cumberland Infirmary</td>
<td>2 week central office Fax: 01946 523489</td>
<td>Mr M Williams Mr L Barthelemy</td>
</tr>
<tr>
<td>Sunderland</td>
<td>276</td>
<td>Sunderland Royal Hospital</td>
<td>Sunderland Royal Hospital Sacriston, Durham</td>
<td>Appointments Office Fax: 0191 5699030</td>
<td>Mr J Mceor</td>
</tr>
<tr>
<td>Easington (60%)</td>
<td>56</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>South Tyneside</td>
<td>149</td>
<td>Palmer Community Hospital</td>
<td>Palmer Community Hospital</td>
<td>Fax: 0191 2022191</td>
<td>Ms H Cooks Miss J Heaton Mr T Leontsinis Mr Pardeshi</td>
</tr>
<tr>
<td>Gateshead</td>
<td>200</td>
<td>Queen Elizabeth Hospital</td>
<td>Queen Elizabeth Hospital</td>
<td>Choose &amp; Book Tel: 0345 6088888 Cancer Booking Team (within call central CE)</td>
<td>Mr J Moor Ms H Cooks</td>
</tr>
<tr>
<td>Durham Dales, Easington &amp; Sedgefield (excl Easington 60%)</td>
<td>217</td>
<td>Darlington Memorial Hospital</td>
<td>Darlington Memorial Hospital</td>
<td>Choose &amp; Book Tel: 0345 6088888</td>
<td>Mr V Shanker</td>
</tr>
<tr>
<td>Darlington</td>
<td>105</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>North Durham</td>
<td>243</td>
<td>University Hospital of North Durham Shotley Bridge Hospital</td>
<td>University Hospital of North Durham Shotley Bridge Hospital</td>
<td>Choose &amp; Book Tel: 0345 6088888</td>
<td>Mr G Tervitt Mr A Bhatti</td>
</tr>
<tr>
<td>South Tees</td>
<td>274</td>
<td>James Cook University Hospital</td>
<td>James Cook University Hospital</td>
<td>Tel: 01642 282853 Fax: 01642 282826</td>
<td>Mr W M Ellisaty Dr S Nag</td>
</tr>
<tr>
<td>Hambleton, Richmondshire &amp; Whitby</td>
<td>154</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stockton</td>
<td>130</td>
<td>University Hospital of North Tees</td>
<td>University Hospital of North Tees</td>
<td>Tel: 01642 633292</td>
<td>Mr J Kurup</td>
</tr>
<tr>
<td>Hartlepool</td>
<td>93</td>
<td>University Hospital of Hartlepool</td>
<td></td>
<td></td>
<td>Dr Jones</td>
</tr>
</tbody>
</table>

*Source - Mid-2013 Population Estimates for Clinical Commissioning Groups (CCGs) in England - ONS.gov.uk*
Curative Surgical Treatment

The NSSG, in consultation with the and Area Team Medical Directors, has agreed the location of hospitals where curative surgical treatment for head and neck cancer will take place, each fulfilling the following criteria:

- They are a designated hospital for the diagnostic and assessment service
- They are the hospital where one or more named MDTs carry out all their curative surgical procedures for head and neck cancer
- They have a designated head and neck ward.

Table 5 – Curative Surgical Treatment

<table>
<thead>
<tr>
<th>Area</th>
<th>Population*</th>
<th>Hospitals for Surgical Delivery</th>
<th>Designated Ward</th>
<th>Designated Hospital</th>
</tr>
</thead>
<tbody>
<tr>
<td>Newcastle West</td>
<td>144</td>
<td>Newcastle upon Tyne Hospitals NHS FT</td>
<td>Ward 10</td>
<td>Freeman Hospital</td>
</tr>
<tr>
<td>Newcastle North &amp; East</td>
<td>143</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Northumberland</td>
<td>316</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>North Tyneside</td>
<td>202</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gateshead</td>
<td>200</td>
<td>City Hospitals Sunderland NHS FT</td>
<td>Wards C33</td>
<td>Sunderland Royal Hospital</td>
</tr>
<tr>
<td>Sunderland</td>
<td>276</td>
<td></td>
<td></td>
<td>Lead Clinician Mr R Banks</td>
</tr>
<tr>
<td>South Tyneside</td>
<td>149</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>North Durham</td>
<td>243</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Darlington</td>
<td>105</td>
<td>South Tees Hospitals NHS FT</td>
<td>Ward 6 and Ward 35</td>
<td>James Cook University Hospital Lead Clinician Mr S Lester</td>
</tr>
<tr>
<td>South Tees</td>
<td>274</td>
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<td>Hartlepool &amp; Stockton</td>
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</tr>
<tr>
<td>Hambleton, Richmondshire &amp; Whitby</td>
<td>154</td>
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<tr>
<td>Durham Dales, Easington &amp; Sedgfield</td>
<td>273</td>
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<td></td>
</tr>
<tr>
<td>Cumbria</td>
<td>328</td>
<td>North Cumbria University Hospitals NHS Trust</td>
<td>Ward for H&amp;N surgery is Beech C/D</td>
<td>Cumberland Infirmary Lead Clinician Mr G Putnam</td>
</tr>
</tbody>
</table>

Source - Mid-2013 Population Estimates for Clinical Commissioning Groups (CCGs) in England - ONS.gov.uk

14-1C-208i Referral Guidelines for Primary Care Practitioners

The NICE Referral guidelines for suspected cancer have been agreed and adopted as the Network Referral Guidelines. These guidelines in conjunction with the Referral Forms for Patients with Suspected Cancer, Coding sheet and Cancer Services Directories provide Primary Care Practitioners with all necessary information regarding named local services and contact points.

See Appendix 5 for Referral Guidelines for Primary Care.
Distribution Process for Referral Guidelines

Primary Care referral guidelines for Head & Neck cancer, including Thyroid are sent to the Primary Care Commissioners for onward distribution to general practice and general dental practices, and also through Cancer Unit Managers for onward distribution to the relevant clinical specialities, ie designated consultant clinicians, non-designated head and neck, thyroid clinicians (ENT surgeons, endocrine surgeons, OMFS surgeons, oral medicine specialists, endocrinologists, restorative dentistry consultant).

Copies of the guidelines are available on the North of England Cancer Network’s website at: http://www.nescn.nhs.uk/nssg-thyroid-subgroup/

The subgroup, in consultation with the Network Chemotherapy Group (NCG), has agreed a list of acceptable chemotherapy treatment algorithms which will be updated bi-annually.

See Appendix 6 for Chemotherapy Treatment Algorithms.

14-1C-208i The TYACN Pathway for Initial Management

The subgroup has agreed, with the chair of the relevant TYACNCG, the TYACN patient pathway for initial management, including any features specific to the subgroup’s cancer site and their host adult cancer network and incorporating their relevant MDT contact numbers. This pathway has been distributed to the MDT lead clinicians.

14-1C-208i the TYA Pathway for Follow Up on Completion of First Line Treatment

Network groups have been advised to continue to follow up patients as per adult clinical protocols and in the meantime if necessary to seek advice by contacting their respective TYA Lead Clinician.

It has been acknowledged that the development of these pathways will need specialist input from adult and paediatric oncologists to ensure that they are robust and clinically accurate. It has been agreed to develop a TYA working group to address these pathways along with other TYA service issues from across NECN.

See Appendix 7 for NSSG Guidelines for Teenage and Young Adults.
Pathway for patients with suspected Thyroid Cancer

Best Average time in days

8

Referral received in secondary care

Patient attends Head & Neck or Thyroid Clinic

Is Thyroid Cancer confirmed or still suspected?

No
Manage as appropriate and remove from cancer pathway

Yes

Alert Teenage and Young Adult (TYA) MDT if patient 16 to 24 years

MDT review of results & plan treatment

Results discussed with patient and treatment plan agreed

Primary Surgery

Total Thyroidectomy
Hemi-thyroidectomy

MDT review of treatment, plan future management and consider suitability for clinical trials

Surgery

Radioactive Iodine treatment

Radiotherapy or Chemotherapy

Outpatient Appointment to discuss results and agree treatment options

Appropriate aftercare

Earliest Clinically Appropriate Date (ECAD) for commencement of subsequent treatment

Holistic assessment

Provide information and psychological support

Inform patient’s GP of Serious Diagnosis

See TYA Pathway

Allocate Thyroid CNS

Liaise & involve healthcare professionals as required

Decision to treat date

First Treatment

48

40

32

8

6
Thyroid Pathway

Thyroid cancer Diagnosed in DGH

General information pack & support given by ward & OP nursing staff to patient. Identified Keyworker informed and card given to patient

Complex problems identified

CNS informed immediately by phone

MDT decision Primary Surgery with or without further treatment

+/- Radioactive Iodine +/- ION trial +/- Radiotherapy

Chemotherapy trial +/-

Assessment, information & support given by Thyroid CNS & referral on to other agencies, e.g. DN, community Macmillan, Dietician, SALT, Psychology

Complex problems identified

Assessment, information & support given by Thyroid CNS & referral on to other agencies, e.g. DN, Dietician, SALT, Community Palliative Care Team etc.

Ongoing support by Key worker

Ongoing support, alongside chemotherapy team

Follow-up nurse led for low risk patients multidisciplinary for high risk patients all patients have continuous access to CNS

Complex problems identified

Ongoing support for complex/difficult problems, working with oncology team

Discharge to community palliative care if appropriate for minority group of patients

New problems >>> Direct re-referral
THYROID - Papillary and Follicular C73-60(II)30, C73-30(I)10

Aim:
1. Radical local treatment for primary inoperable neck disease or loco regional recurrent disease, especially $^{131}$I negative.
2. To achieve local control in the neck and improve disease free survival as adjuvant treatment for PT4 differentiated thyroid cancer, with residual macro and microscopic disease.
3. To palliate symptoms for recurrent or metastatic disease.

### Clinical investigations required
- **Clinical decision to treat**
  - Clinical examination.
  - Fine needle aspirate
  - Surgical operation note if appropriate
  - Histology.
  - PTNM staging
  - Thyroid function studies, thyroglobulin.
  - $^{131}$I scan.
  - Ultrasound /CT/PET scan-(TSH stimulated)

- **Essential for pre treatment processes**
  - Staging CT/US/PET /MR scan where relevant.

### Treatment Regime
See British Thyroid Association Guidelines for the Management of Thyroid Cancer
BTA 2014 Guidelines
Surgery and $^{131}$I are the mainstay of treatment.

- **Radiotherapy**
  - **Radical** C73-60(II)30
    1. Recurrent disease in the neck which is not amenable to $^{131}$I therapy or further surgery, or locally advanced tumours which are inoperable for a variety of reasons.
  - **Adjuvant** C73-60(II)30
    2. Gross evidence of local invasion at surgery, with presumed macro- or microscopic residual disease after surgery, not amenable to $^{131}$I or further surgery.
  - **Palliative** C73-30(I)10
    3. To palliate symptoms for recurrent disease in the neck.

- **KINASE INHIBITORS**
  - Restricted to progressive stage disease uncontrolled by surgery, radio-iodine or external beam radiotherapy. Effective agents are Sorafenib,Sunitinib,Pazopanib,E7080. Chemotherapy not favoured.

- **Trials**
  - For current trials contact Clinical Trials Unit on Dect 21955 or refer to intranet [http://intranet/NCCT/CTU/research.htm](http://intranet/NCCT/CTU/research.htm)

### Pre treatment process
- **Immobilization**
  - **C73-60(II)30**
    - Supine, spine as straight as possible, neck maximally extended. Thermoplastic immobilisation device
  - **C73-30(I)10**
    - Supine, spine as straight as possible, neck maximally extended. Polyfoam, head and neck shape with chin strap for large volume
- **Localization**
  - C73-60(II)30
    - 1. Planning CT scan - see CT protocol IS02. Volume defined on treatment planning system.
    - PET-CT after TSH stimulation in Iodine refractory in PF WHO 0-2 cases.
  - C73-30(I)10
    - Fields defined on Virtual Simulator for palliative cases.

- **Target Definition**
  - C73-60(II)30
    - **Phase I**
      - The PTV should extend from the angle of the jaw superiorly to the level of the carina inferiorly, and laterally to include the supraventricular fossae. The areas of interest are the thyroid bed, adjacent lymph node drainage areas, including the deep cervical, para-oesophageal and superior mediastinal nodes. Levels 2-7.
    - **Phase II**
      - Thyroid bed and immediate adjacent nodes with 0.5-2.0cm margin. Usually Hyoid superiorly and suprasternal notch inferiorly.
  - C73-30(I)10
    - As for Phase I detailed above.

- **Responsibility**
  - As practitioners in accordance with IR(ME)R, it is the responsibility of the Clinical Consultant Oncologist (CCO) to define the CTV/PTV or supervise the Specialty Registrar (SpR).

- **Organs at Risk (ORs)**
  - Cervical and upper thoracic spinal cord. Maximum cord dose if 20 cm or more of cord included should not exceed 46Gy in 23 fractions.
  - Parotid (<26GY median dose or ALARA)
  - Oesophagus(ALARA)
  - Lungs (V20 < 20)
  - Mouth (45GY)
  - Larynx and Trachea - ALARA

- **Responsibility**
  - As practitioners in accordance with IR(ME)R, it is the responsibility of the CCO to accept the dose to ORs.
  - As operators in accordance with IR(ME)R, it is the responsibility of a member of dose planning to delineate the ORs.

- **Prescribed Dose**
  - C73-60(II)30
    - **Phase I**
      - 40-44Gy in 20-22 fractions, daily over 26-30 days.
    - **Phase II**
      - 16-20Gy in 8-10 fractions, daily over 10-15 days.
      - In cases of small volume disease, Phase 2 volume may be planned from the start.
  - C73-30(I)10
    - 30 Gy in 10 fractions, daily, over 12-14 days

- **Dose Planning**
  - C73-
    - Currently single phase technique is favoured.
    - Usually with TSH stimulated PET-CT planning.
<table>
<thead>
<tr>
<th><strong>60(II)30/66GY IN 30</strong></th>
<th>Usually with Tomotherapy based IMRT (or CRT) with dose escalation if appropriate to 66GY in PET avid areas in CTV. Prophylactic nodal disease 54 GY in 30 Fractions with IMRT</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Phase I</strong></td>
<td>Conformed treatment technique</td>
</tr>
<tr>
<td></td>
<td>If gross disease, parallel opposed, anterior and posterior fields.</td>
</tr>
<tr>
<td><strong>Phase II</strong></td>
<td>Conformed treatment technique, planned to reduce dose to spinal cord.</td>
</tr>
<tr>
<td></td>
<td>Phase 1 and phase 2 defined on TPS to maintain same isocentre, if possible.</td>
</tr>
<tr>
<td></td>
<td><strong>C73-30(I)10</strong></td>
</tr>
<tr>
<td></td>
<td>Parallel opposed, anterior and posterior fields, with lung shielding.</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>• <strong>Dose Reporting</strong></td>
<td>Dose prescribed at the isocentre (ICRU reference point)</td>
</tr>
<tr>
<td></td>
<td>Maximum and minimum point doses can be found in the dose volume table of the treatment planning system.</td>
</tr>
<tr>
<td></td>
<td><strong>C73-60(II)30</strong></td>
</tr>
<tr>
<td></td>
<td>Dose prescribed at isocentre.</td>
</tr>
<tr>
<td></td>
<td><strong>C73-30(I)10</strong></td>
</tr>
<tr>
<td>• <strong>Planning Documentation</strong></td>
<td>Electronic Treatment prescription.</td>
</tr>
<tr>
<td></td>
<td>Treatment plan protocol.</td>
</tr>
<tr>
<td></td>
<td>Orthogonal Digitally Re constructed radiographs (DRRs) at the isocentre.</td>
</tr>
<tr>
<td></td>
<td><strong>C73-60(II)30</strong></td>
</tr>
<tr>
<td></td>
<td><strong>C73-30(I)10</strong></td>
</tr>
<tr>
<td>• <strong>Verification</strong></td>
<td>Isocentre defined from internal reference point on the CT scan related to external marks on the skin/polyfoam/thermoplastic immobilisation device.</td>
</tr>
<tr>
<td></td>
<td>Orthogonal verification images are compared to reference orthogonal DRRs from the planning system.</td>
</tr>
<tr>
<td><strong>Treatment Process</strong></td>
<td></td>
</tr>
<tr>
<td>• <strong>Treatment</strong></td>
<td>See Treatment Verification RA04 and Universal Treatment Delivery RA05</td>
</tr>
<tr>
<td>• <strong>Information leaflets</strong></td>
<td>Radiotherapy Information for Out Patients R/T 1.</td>
</tr>
<tr>
<td></td>
<td>Your Mould Room Appointment R/T 18</td>
</tr>
<tr>
<td>• <strong>Treatment Review</strong></td>
<td>Patients are reviewed weekly, unless specified by otherwise by the clinician. Review may be carried out by CCO, SpR, treatment review radiographer or clinical nurse specialist where agreed protocols exist.</td>
</tr>
<tr>
<td>• <strong>Number of missed fractions</strong></td>
<td>Unless otherwise states in the electronic treatment prescription 2 fractions may be missed without prior notification.</td>
</tr>
<tr>
<td>• <strong>Side Effects</strong></td>
<td><strong>1. Acute</strong></td>
</tr>
</tbody>
</table>
Skin reaction
Mucositis ± odynophagia. (may require aspiration)
Tiredness
Occasional pneumonitis.
L'Hermitte's syndrome
2. Late
Oesophageal stenosis/stricture.
Cartilage necrosis
Carotid stenosis

- Concomitant exposure

Justification for the following concomitant exposures is inherent within this protocol:
- 2 CT scan episodes as per protocol IS02

<table>
<thead>
<tr>
<th>No. of fractions</th>
<th>No. of verification episodes</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>5</td>
</tr>
<tr>
<td>30</td>
<td>12</td>
</tr>
</tbody>
</table>

Any additional exposures must be justified by the prescribing clinician.
Summary Management Pathway for Patients with Well Differentiated Thyroid Carcinoma in the NECN
Imaging in patients with no previous thyroid diagnosis

Ultrasound (US) examination of the neck is the primary radiological investigation for patients with clinically enlarged thyroids, palpable nodules or nodules demonstrated on other forms of imaging (CT, MRI, PET).

US is also indicated for patients with suspected neck lymphadenopathy.

US is not currently indicated as a screening tool in the general patients but is useful in the examination of patients with a high-risk of thyroid malignancy (family history, MEN2 or have had previous neck radiotherapy).

**US technique:**

High frequency linear array US (7 MHz or higher) is required for evaluation of the thyroid and neck nodes. Lower frequency curved array US is occasionally helpful for evaluation of retrosternal extension in large goitres.

Doppler and ‘Elastography’ may give further helpful information (see below).

The US examination should identify:

- Position and size of nodules
- Description of nodules with particular reference to “worrying” features (see below).
- Assessment of cervical lymphadenopathy. (This may help guide the surgical approach in removing disease)
- Identify nodule(s) for biopsy
- Risk stratify the nodule (U1 normal, U2 benign, U3 indeterminate, U4 suspicious, U5 malignant)

Features which increase the probability that a nodule is malignant (“worrying”) include:

- Size (>10mm)
- Hypoechogenicity (low echo return)
- Irregular margins
- Irregular vascularity demonstrated using Doppler
- Microcalcifications
- Capsule invasion
- Malignant looking neck nodes
- Elastography: “hardness” of nodule currently under evaluation. [US ‘Elastography’ is a recent development in US and evaluates the elasticity/hardness of a lesion. This is currently under evaluation but shows great promise in the differentiation between benign and malignant nodules. Malignant nodules are harder than benign. Publication pending.]

US guided nodule sampling for cytology should be undertaken for:

- Patients in a high risk group
- Solid nodules which have increased in size
- Nodules which show “worrying” features (above)
‘Cold’ nodules demonstrated on radio-isotope thyroid imaging (approx. 20% malignant)

If there is a cystic component within the nodule, sampling should be taken from a solid component if possible before aspirating the cyst.

Computerised Tomography (CT) and Magnetic Resonance Imaging (MRI) are not indicated in the routine nodule evaluation.

Radiological imaging of patients with an established diagnosis of thyroid malignancy

‘Routine’ CT/MRI prior to surgery is not indicated.

Patients who have a high risk of metastases (based on clinical evaluation, biochemistry or pathological features) should be investigated with cross-sectional imaging.

Lung metastases are evaluated with CT.

Technique: 3mm (max) helical acquisition of neck and thorax. Images evaluated in lung, soft tissue and bone windows.

Intravenous contrast (iodinated) is not indicated for lung metastases. Contrast however is very useful for evaluation of metastases elsewhere eg. Liver. Iodinated contrast ideally should not be administrated less than 6 weeks prior to radio-iodine treatment particularly after thyroidectomy.

MRI may be used to evaluate systemic metastases eg. Bone.

Patients who have a high risk of local recurrent disease (based on clinical evaluation, biochemistry eg. rising thyroglobulin or pathological features) should have repeat US examination of the neck.

The thyroid bed is examined for hypoechoic masses (probable local recurrence) and malignant-looking nodes. Any suspicious abnormality should be sampled for cytology. Sampling may also include thyroglobulin assay of the sampled material.

‘Routine’ investigation of patients with thyroid malignancy treated with surgery:
Neck US is performed at 6-12 months following surgery and the periodically depending on the patient’s risk.

Cytological/Thyroglobulin sampling can be taken as above.
Appendix 3 - Radiology imaging of (Possible) Thyroid malignancy – outside MDT

GP referral “Neck mass” of uncertain origin (1)

Ultrasound (US)

Not Thyroid

GP low probability of malignancy (U1/2)

Thyroid

High probability malignancy U4/5

indeterminate probability of malignancy U3

Recommend MDT referral

US guided Cytological sampling (2)

MDT referral to MDT at discretion of clinician

Notes:

(1) Neck masses are often referred directly to Radiology for investigation although NOT recommended.

(2) Cytological sampling may be undertaken at this stage to reduce the patient’s “journey time” and patient uncertainty, if appropriate staff available.

If cytology “benign” patient still referred to MDT because of suspicious US features.
Imaging on possible or confirmed Thyroid malignancy, post MDT referral

Confirmed malignancy

MDT Cancer path

“suspicious" thyroid

Cytological sampling

malignancy NOT confirmed

Follow up US

Suspicion of malignancy

cytology

malignant

MDT discussion

no change/suspicion of malignancy

not malignant

discharge to GP

malignant
Radiological investigation of possible metastatic or recurrent thyroid malignancy

MDT discussion
Suspicion of recurrent/metastatic disease

Evaluation of possible neck disease
possible metastatic disease

US neck
CT neck/chest/abdomen
Nuclear medicine scan

Cytological sampling of “suspicious” mass/nodes

MDT discussion
?Recurrent/metastatic disease

No

Follow up

Yes

MDT treatment

NB. Evaluation of neck and metastatic disease may be undertaken concurrently
Guidelines for the Examination and Reporting of Endocrine Cancer Pathology Specimens

GUIDELINES

Produced by Dr Sarah J Johnson and Dr Debra Milne for NESCN Network Histopathology Group

Revised June 2015

<table>
<thead>
<tr>
<th>Version</th>
<th>Date</th>
<th>Summary</th>
<th>Review Date</th>
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<tr>
<td>4.0</td>
<td>26.06.15</td>
<td>Document reviewed and updated</td>
<td>June 2017</td>
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9. References 10
1. Introduction

These guidelines are for the examination and reporting of endocrine cancer specimens, and are supplementary to the following guidance from The Royal College of Pathologists:

- Dataset for thyroid cancer histopathology reports (Feb 2014)
- Dataset for reporting adrenal cortical carcinoma and malignant phaeochromocytoma/paraganglioma (Jan 2012)
- Dataset for endocrine tumours of the gastrointestinal tract including pancreas (Jan 2009)

All endocrine cancer cases should be discussed by an Endocrine Cancer multidisciplinary team which has a histopathologist as a core member. All pathologists reporting endocrine cancer specimens should participate in local audit. If there is a significant discrepancy with the clinical/radiological findings the pathological material should be reviewed, if possible by a second pathologist with an interest in endocrine pathology.

Specimens should be reported to an agreed timeframe so as to allow appropriate clinical decision making at planned Endocrine MDT meetings.

2. Specimen types

**Thyroid**
- fine needle aspirate
- cyst fluid
- needle core biopsy
  - for cytology
  - for histology (usually for lymphoma or anaplastic carcinoma)
- hemithyroidectomy (right or left)
- isthmusectomy
- completion thyroidectomy
- total thyroidectomy
- biopsy / resection of metastasis
- lymph node dissection (right or levels, levels to be specified)

**Parathyroid**
- parathyroid gland (location stated)
- en bloc resection

**Adrenal gland**
- needle core biopsy
- adrenalectomy (right or left)
3. Specimen examination

Each pathology service should establish a defined protocol for each endocrine specimen type received by the laboratory, taking into account the guidance in the RCPath cancer datasets. The protocols should be regularly reviewed and updated by the Lead endocrine pathologist, in consultation with other pathologists who participate in service delivery.

Endocrine tissue should only be removed and stored for the purposes of research if it is surplus to the requirements of the diagnostic service. Appropriate patient consent and ethical approval should be obtained.

4. Minimum dataset for reporting

The RCPath dataset items may be reported in proforma either within or instead of the freetext part of the pathology report, or recorded as a separate proforma. Trusts and MDTs should work towards recording and storing the dataset items as individually categorised items in a regional database, so as to allow electronic retrieval and to facilitate the use of pathology data in clinical audit, service planning and monitoring, research and quality assurance.

Laboratories should use an agreed diagnostic coding system (eg. SNOMED).

All malignancies should be reported to the Northern and Yorkshire Cancer Registry, in accordance with the service level agreement with their host Trust.

**Thyroid Cytology**

Cytology reporting should follow RCPath Guidance on the reporting of thyroid cytology specimens (November 2009, under review 2015), and should include a descriptive report as well as a Thy category. Reports should contain the following information:

- Method of sampling and whether USS-guidance used (if known)
- Descriptive report
  - Summary Thy category:
    - Thy1 – non-diagnostic (give reason for inadequacy)
    - Thy1c – non-diagnostic, cystic lesion
    - Thy2 – non-neoplastic
    - Thy2c – non-neoplastic, cystic lesion
    - Thy3a – neoplasm possible, atypia
    - Thy3f – neoplasm possible, suggesting follicular neoplasm,
    - Thy4 – suspicious of malignancy (state type)
    - Thy5 – diagnostic of malignancy (state type)

**Thyroid Cancers**

Histology reports should include the following:
Specimen type  
Location of carcinoma(s)  
Number of carcinoma(s)  
Dimension of only / largest tumour

For papillary thyroid cancer:
  Classical  
  FVPTC  
    Encapsulated FVPTC  
    Non-invasive  
    Capsular invasion only  
  Vascular (angio)invasion  
  Non-encapsulated FVPTC  
  Diffuse / aggressive / multinodular FVPTC  
Microcarcinoma (pT1a)  
  Single or multiple  
  Bilateral  
  Desmoplastic fibrosis or infiltrative growth present  
  Incidental finding  
Other PTC variant (specify)  
  Oncocytic variant  
  Minority poorly differentiated (not anaplastic) component

For follicular carcinoma:
  Minimally invasive  
    Capsular invasion only  
  Vascular (angio)invasion  
  Widely invasive  
  Minority poorly differentiated (not anaplastic) component

Medullary carcinoma.

Poorly differentiated carcinoma (majority (>50%) is poorly differentiated), specify differentiated component.

Undifferentiated / anaplastic carcinoma, specify any differentiated component.

Mixed medullary carcinoma with papillary carcinoma.  
Mixed medullary carcinoma with follicular carcinoma.

For all tumours:
  Angioinvasion / vascular invasion  
  Extent:  
    Confined to thyroid (intrathyroidal)  
Minimal extrathyroidal extension (seen by microscopy) beyond thyroid capsule into sternothyroid or perithyroidal soft tissue only (pT3)  
Tumour invades beyond thyroid capsule into subcutaneous soft tissue, larynx, trachea, oesophagus or recurrent laryngeal nerve; or an anaplastic carcinoma not extending beyond the thyroid (pT4a)?  
Tumour invades beyond thyroid capsule into prevertebral fascia, mediastinal vessels or encasement of carotid artery; or anaplastic carcinoma extending beyond thyroid capsule (pT4b)
Excision margins:
  - Free of tumour (R0). Minimum distance in mm
  - Microscopic tumour at margin (R1)
  - Macroscopic tumour at margin (R2)

Lymph nodes:
  - Total number identified
  - Level VI lymph nodes: total number and number positive (pN1A)

Other lymph nodes: specify site; total number and number positive (pN1b).

Distant metastases:
  - Pathological confirmation (pM1): specify site

**TNM staging – 7th edition**

**Parathyroid cancers**

- Nature of specimen (including location)
- Specimen dimensions
- Weight of parathyroid gland
- Diagnosis
- Tumour capsule intact or not
- Surgical margins clear or involved. Minimum distance in mm
- Lymph nodes: number identified, site and whether involved

**Adrenal cancers**

For all tumours:
- Nature of specimen
- Nature of disease: primary or recurrence / metastasis
- Type of surgery: open, laparoscopic, not known
- Maximum dimensions of tumour
- Invasion into extra-adrenal soft tissue?
- Invasion into adjacent organs?
- Lymph nodes received and number involved
- Excision: R0, R1, R2
- Histological evidence of metastasis?

For adrenal cortical tumours:
- Tumour weight (if possible)
- Venous tumour thrombus? Specify vein involved
- Diagnosis: adrenocortical carcinoma or adrenocortical tumour of uncertain malignant potential
- Comment on each of:
  - Clear or eosinophilic cells and proportion
  - Diffuse architecture (in >one third)
  - Significant nuclear pleomorphism
  - Mitotic count per 50 hpf
  - Atypical mitoses
  - Confluent necrosis
  - Venous invasion
  - Sinusoidal invasion
  - Capsular invasion
- Weiss score and/or modified Weiss score
TNM staging – 7th edition and ENSAT modification

For phaeochromocytoma/paraganglioma:
   Presence of other component, and state type
   Intra-adrenal or extra-adrenal?
   Comment on each of:
      Large nests or diffuse growth >10% of tumour volume
   Necrosis (confluent or central in cell nests)
      High cellularity
      Cellular monotony
      Spindle cells (even focal)
      Mitotic count per 10 hpf
      Extension into adjacent fat
      Vascular invasion
      Capsular invasion
      Profound nuclear pleomorphism
      Nuclear hyperchromasia
      Sustentacular cells
   PASS (for adrenal lesions)

5. Grading and staging conventions

Thyroid cancer
TNM staging, 7th edition.

Parathyroid cancer
No staging system.

Adrenal cortical cancer
TNM staging, 7th edition, and ENSAT modification.

Adrenal phaeochromocytoma/paraganglioma
No staging system.
### 6. Use of ancillary laboratory techniques

All laboratories providing a Pathology service in the network must have at least conditional laboratory (eg CPA) accreditation and ensure participation in an appropriate external quality assurance programme which demonstrates satisfactory laboratory performance.

Additional stains which may be of value include the following:

<table>
<thead>
<tr>
<th>Tissue type</th>
<th>Diagnostic scenario</th>
<th>Histochemical stains and immunohistochemical markers</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Thyroid</strong> (cytology or histology)</td>
<td>Papillary thyroid carcinoma</td>
<td>CK19, EMA, HBME1, CD56</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Medullary thyroid carcinoma</td>
<td>Calcitonin, CEA, thyroglobulin</td>
<td>MTC is positive for TTF1</td>
</tr>
<tr>
<td></td>
<td>C cell hyperplasia</td>
<td>Calcitonin, CEA</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Anaplastic carcinoma</td>
<td>CK cocktail, CK7, MNF116, calcitonin, thyroglobulin, TTF1, LCA, CD31, CD34, S100, Pax8</td>
<td>Rarely stain well for epithelial markers or thyroglobulin</td>
</tr>
<tr>
<td></td>
<td>Lymphoma</td>
<td>Usual markers</td>
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</tr>
<tr>
<td></td>
<td>“pseudoinvasion” post-FNA</td>
<td>Perl’s</td>
<td></td>
</tr>
<tr>
<td><strong>Parathyroid</strong></td>
<td>“pseudoinvasion” with fibrosis</td>
<td>Perl’s</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Proliferation rate</td>
<td>Ki67 (MIB1)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Vascular invasion</td>
<td>CD31, CD34</td>
<td></td>
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<tr>
<td></td>
<td>?carcinoma</td>
<td>Parafibromin, PGP9.5, galectin3, Ki67</td>
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<tr>
<td><strong>Adrenal gland</strong></td>
<td>Sustentacular cells</td>
<td>S100</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Adrenal cortical origin vs phaeochromocytoma</td>
<td>chromogranin, synaptophysin, S100, inhibin, melanA (A103), calretinin, tyrosine hydroxylase, keratins</td>
<td></td>
</tr>
</tbody>
</table>
7. Audit

All pathologists reporting endocrine cancer specimens should participate in local audit.

Audit may take the form of:
- review of compliance with procedures for specimen examination and reporting.
- completeness of reports compared to RCPath datasets.
- systematic logging of diagnostic agreement / disagreement during review of cases for MDTMs.
- review of diagnostic consistency between pathologists using data from cases in blind circulations.

The results of the audit process should be discussed with all pathologists who participate in service delivery and used to inform the development of reporting protocols.

8. Referral for review or specialist opinion

Cases referred for review or specialist opinion should be referred according to the principles detailed in the most recent version of the North of England Cancer Network Histopathology Group’s Guideline “Policy for referral of specimens outside the local pathology service”.

9. References

Stephenson TJ, Johnson SJ. *Dataset for thyroid cancer histopathology reports (3rd edition).* The Royal College of Pathologists, 2014.


Stephenson TJ, Cross SS, Williams GT. *Dataset for endocrine tumours of the gastrointestinal tract including pancreas.* The Royal College of Pathologists, 2009.


Okpokam AT, Johnson SJ. How helpful is cytokeratin 19 immunohistochemistry in diagnosing papillary thyroid carcinoma? Poster at Newcastle Pathology 2005 (PathSoc), July 2005. Published abstract J Pathol 2005;207(suppl1)


These guidelines were originally modified from guidelines prepared by the Yorkshire Cancer Network, who kindly gave permission for their use. They were agreed by the Pathology Group and the Site Specific Group of the North of England Cancer Network and the locality MDTMs.

June 2007

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June 2007
Referral Guidelines for Primary Care

Oral, Non Oral Lesions and Thyroid

Developed by
Head & Neck Site Specific group
&
Thyroid Sub-group

Title: NECN Head and Neck Cancer Primary Care Referral Guidelines
Authors: Head and Neck NSSG members
Thyroid Subgroup members

Circulation List: Primary care medical practices
Primary dental practices
Designated consultant clinicians
Non-designated head and neck consultant clinicians (ENT surgeons, endocrine surgeons, OMFS surgeons, oral medicine specialists, endocrinologists, restorative dentistry consultant) – via Cancer Unit Managers
Head and Neck NSSG

Contact Details: Mrs C McNeill, Peer Review Co-ordinator
Claire.mcneill@nhs.net

Telephone: 01138252976

Version History:

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<td>CCG populations input</td>
<td>May 2017</td>
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<td>v.05</td>
<td>17.12.13</td>
<td>Head and neck cancers (Oral Lesions)-amended</td>
<td>May 2015</td>
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<tr>
<td>Area</td>
<td>Population</td>
<td>Designated Hospital</td>
<td>Neck Lump Clinic Location</td>
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<td>------</td>
<td>------------</td>
<td>---------------------</td>
<td>---------------------------</td>
</tr>
<tr>
<td>Newcastle West</td>
<td>144</td>
<td>Freeman Hospital (FH)</td>
<td>Freeman Hospital</td>
</tr>
<tr>
<td>Newcastle North &amp; East</td>
<td>143</td>
<td></td>
<td></td>
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<tr>
<td>Northumberland</td>
<td>316</td>
<td>Cumberland Infirmary</td>
<td>Cumberland Infirmary</td>
</tr>
<tr>
<td>North Tyneside</td>
<td>202</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cumbria</td>
<td>328</td>
<td>Cumberland Infirmary</td>
<td>Cumberland Infirmary</td>
</tr>
</tbody>
</table>
| Sunderland | 278 | Sunderland Royal Hospital (SRH) | Sunderland Royal Hospital (SRH) | Appointments Office Fax: 0191 5699030 | Dr J Elliott 
Ms H Cocks 
Mr J Burns 
Mr J O'Hara | V Hervey (does not attend clinic - contactable as liaison haematologist) |
| North Durham | 243 | | | | | |
| South Tyneside | 149 | South Tyneside DH | South Tyneside DH | Palmer Community Fax: 0191 2022191 | Mr H Cocks 
Ms J Heaton 
Mr T Leontsinos 
Ms K Stone 
Ms N Jones | V Hervey (does not attend clinic - contactable as liaison haematologist) |
| Gateshead | 200 | Queen Elizabeth Hospital | Queen Elizabeth Hospital | Choose & Book Tel: 0345 6088888 | Dr D Plews 
Dr A Lennard 
Dr G Jackson 
Dr G Jones 
Dr T Menne (do not attend clinic - contactable by phone/bleep only) | |
| Durham Dales, Easington & Sedgefield | 273 | Darlington Memorial Hospital | Darlington Memorial Hospital | Choose & Book Tel: 0345 6088888 | Dr D Plews (unable to attend clinic however they are able to see the patient 24-48 hrs) | JCUH Tuesday AM |
| Darlington | 105 | | | | |
| South Tees | 274 | James Cook University Hospital (JCUH) | James Cook University Hospital (JCUH) | Tel: 01642 282853 Fax: 01642 282826 | Dr D Plews (unable to attend clinic however they are able to see the patient 24-48 hrs) | JCUH Tuesday AM |
| Hartlepool & Stockton | 286 | | | | |
| Hambleton, Richmondshire & Whitby | 154 | | | | |

* - 2013 Mid Year Population Estimates
Table 2 - Referral Guidelines for Primary Care Practitioners - Thyroid Patients

<table>
<thead>
<tr>
<th>Area</th>
<th>PCT populations</th>
<th>Designated Hospital</th>
<th>Thyroid Clinic Location</th>
<th>Contact Points</th>
<th>Designated Lead Clinicians</th>
<th>MDT Location/MDT Coordinator</th>
</tr>
</thead>
<tbody>
<tr>
<td>Newcastle West</td>
<td>144</td>
<td>Freeman Hospital</td>
<td>Freeman Hospital</td>
<td>GDP - FH</td>
<td>Mr A Welch</td>
<td>Royal Victoria</td>
</tr>
<tr>
<td>Newcastle North &amp; East</td>
<td>143</td>
<td>Royal Victoria Infirmary</td>
<td>Royal Victoria Infirmary</td>
<td>2 week wait central office</td>
<td>Mr V Paleri</td>
<td>Mr R Bliss</td>
</tr>
<tr>
<td>Northumberland</td>
<td>316</td>
<td>Northumbria Specialist Emergency Care Hospital</td>
<td>North Tyneside Hospital</td>
<td>2 week central office</td>
<td>Mr M Carr</td>
<td></td>
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<tr>
<td>Cumbria</td>
<td>328</td>
<td>Cumberland Infirmary</td>
<td>Cumberland Infirmary</td>
<td>2 week central office</td>
<td>Mr M Williams</td>
<td>Mr L Barthelmes</td>
</tr>
<tr>
<td>Sunderland</td>
<td>276</td>
<td>Sunderland Royal Hospital</td>
<td>Sunderland Royal Hospital</td>
<td>Appointments Office</td>
<td>Mr J Moor</td>
<td></td>
</tr>
<tr>
<td>Easington (60%)</td>
<td>56</td>
<td>Sacriston, Durham</td>
<td>2 week central office</td>
<td>Mr T Leontsinis</td>
<td>Miss A Cocks</td>
<td></td>
</tr>
<tr>
<td>South Tyneside</td>
<td>149</td>
<td>Palmer Community Hospital</td>
<td>Palmer Community</td>
<td>Fax: 0191 2022191</td>
<td>Mr H Cooks</td>
<td>Ms H Cocks</td>
</tr>
<tr>
<td>Gateshead</td>
<td>200</td>
<td>Queen Elizabeth Hospital</td>
<td>Queen Elizabeth</td>
<td>Choose &amp; Book Tel: 0345 608888</td>
<td>Mr V Shanker</td>
<td>Mr S Lister</td>
</tr>
<tr>
<td>Durham Dales, Easington &amp; Sedgefield (excl Easington 60%)</td>
<td>217</td>
<td>Darlington Memorial Hospital</td>
<td>Darlington Memorial Hospital</td>
<td>Choose &amp; Book Tel: 0345 608888</td>
<td>Mr V Shanker</td>
<td>J James Cook</td>
</tr>
<tr>
<td>North Durham</td>
<td>243</td>
<td>Shotley Bridge Hospital</td>
<td>University Hospital of North Durham Shotley Bridge Hospital</td>
<td>Choose &amp; Book Tel: 0345 608888</td>
<td>Mr G Tenaghi</td>
<td>Mr A Bhatti</td>
</tr>
<tr>
<td>South Tees</td>
<td>274</td>
<td>James Cook University Hospital</td>
<td>James Cook University Hospital</td>
<td>Choose &amp; Book Tel: 01642 2828828</td>
<td>Mr W Melsaify</td>
<td>Dr S Nag</td>
</tr>
<tr>
<td>Hambleton, Richmondshire &amp; Whitby</td>
<td>154</td>
<td>University Hospital of North Tees</td>
<td>University Hospital of North Tees</td>
<td>Tel: 01642 623292</td>
<td>Mr J Kunup</td>
<td>Dr Jones</td>
</tr>
<tr>
<td>Stockton</td>
<td>193</td>
<td>University Hospital of Hartlepool</td>
<td>University Hospital of Hartlepool</td>
<td>Tel: 01642 2828828</td>
<td>Mr J Kunup</td>
<td>Dr Jones</td>
</tr>
</tbody>
</table>

Source - Mid-2013 Population Estimates for Clinical Commissioning Groups (CCGs) in England - ONS.gov.uk
# Head and neck cancers (Oral Lesions)

Patient presents with symptoms in the mouth/cranial neuropathy/orbital masses

<table>
<thead>
<tr>
<th>Oral Ulceration / Mass</th>
<th>Red &amp; White patches (Including lichen planus)</th>
<th>Tooth Mobility</th>
<th>Oral soft tissue lesion</th>
<th>Cranial neuropathy or orbital</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unexplained ulceration of oral mucosa or mass &gt; 3 weeks</td>
<td>Unexplained red and white patches of the oral mucosa</td>
<td>Yes</td>
<td>No</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>Unexplained tooth mobility &gt; 3 weeks</td>
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<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>2 week wait referral to Maxillo-facial branch of the Head and Neck Team</td>
<td>Prompt (6 weeks) Referral to Maxillo-facial branch of the Head and Neck Team</td>
<td>2 week wait referral to Maxillo-facial branch of the Head and Neck Team</td>
<td>2 week wait referral to Maxillo-facial branch of the Head and Neck Team</td>
<td>2 week wait referral to Maxillo-facial branch of the Head and Neck Team</td>
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</table>
Head and neck cancers (Non oral)

Patient presents with symptoms in the

<table>
<thead>
<tr>
<th>Voice</th>
<th>Throat</th>
<th>Neck</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hoarseness</td>
<td>Sore throat +/− Earache +/− Dysphagia</td>
<td>Neck Lump</td>
</tr>
</tbody>
</table>

- Unexplained Hoarseness for > 3 weeks or longer, urgent referral for chest X-ray

  - Chest X-ray suggestive of lung cancer
    - 2 week wait referral to respiratory specialist
  - Chest X-ray negative and smokers aged 50 years and older and heavy drinkers
    - 2 week wait referral to ENT branch of Head and Neck Team

- Any of the following:
  - unexplained persistent sore or painful throat
  - unexplained pain in head and neck > 4 weeks associated with ear ache but with normal otoscopy

  - 2 week wait referral to ENT branch of Head and Neck Team

- unexplained lump (non Thyroid) in neck recently appeared or changed over 3–6 weeks without generalised Lymphadenopathy or Lymphocytosis
  - unexplained persistent swelling in the parotid or submandibular gland

  - 2 week wait referral to either ENT or Maxillo-facial branch of Head and Neck Team

* Where patient doesn’t fit with criteria but clinically concerned please refer to ENT branch of Head and Neck Team as an Urgent referral
Patient presents with normal thyroid function tests, and:

Symptoms of tracheal compression including Stridor due to thyroid swelling

A thyroid swelling associated with any of the following:
- a solitary nodule newly presenting or increasing in size at any age, particularly in a very young or old patient
- history of neck irradiation
- family history of endocrine cancer
- cervical lymphadenopathy associated with Thyroid lump
- New symptoms of unexplained hoarseness or voice changes, pain and/or rapid change in size

Emergency admission/same day urgent referral to ENT service in cases of stridor

2 week wait referral to Thyroid or Head and Neck Teams

Where patient does not fit with criteria but clinically concerned, please refer to Thyroid or Head and Neck team directly as an URGENT referral. If thyroid function tests are abnormal, refer to medical endocrinology, urgently if indicated.
# HEAD & NECK
2WW REFERRAL PROFORMA

## GP DETAILS

<table>
<thead>
<tr>
<th>GP Name</th>
<th>Practice Code</th>
</tr>
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<tbody>
<tr>
<td>Practice name</td>
<td>Practice Tel. No</td>
</tr>
<tr>
<td>Practice Address</td>
<td>Fax No.</td>
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### Date of Referral

## PATIENT DETAILS

<table>
<thead>
<tr>
<th>Forename</th>
<th>DOB</th>
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<tbody>
<tr>
<td>Surname</td>
<td>Age</td>
</tr>
<tr>
<td>Previous Surname (if married)</td>
<td>Sex</td>
</tr>
<tr>
<td>Address</td>
<td>NHS No</td>
</tr>
<tr>
<td>Post Code</td>
<td>Hospital No.</td>
</tr>
<tr>
<td>Tel. No. Home</td>
<td>Patient previously visited this hospital? ☐</td>
</tr>
<tr>
<td>Tel. No. Mobile</td>
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</table>

**Special needs / requirements?**  If yes, please state (e.g. Deaf, Hearing Loop, Wheelchair Access, Learning Disabilities)

**First language**

If an interpreter is required please specify language

Has the patient had any imaging/pathology relevant at another hospital/independent sector organisation?

**Please enclose results to avoid unnecessary delays.**

Latest recorded smoking status:

Latest recorded alcohol consumption:

Is the Patient aware of the Urgent Referral for suspected malignancy:

Have you given your patient a 2 week wait leaflet?

Other Findings or Comments not included in Consultation above:
# Thyroid Referral

Thyroid swellings associated with any of the following:

- Any solitary *thyroid* nodule, rapid increase in size of goitre or solitary *thyroid* nodule; history of neck irradiation; family history of an endocrine tumour; unexplained hoarseness or voice changes; cervical lymphadenopathy; patient aged >65.

## Relevant Information

**THE LEVEL OF SUSPICION IS INCREASED IF THE PATIENT IS A HEAVY SMOKER OR HEAVY ALCOHOL DRINKER, MALE AND OVER 45 YEARS**

<table>
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<th>Comments / other reasons for urgent referral:</th>
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<tr>
<td>Brief clinical history and site of lesion:</td>
</tr>
<tr>
<td>Relevant Past Medical History:</td>
</tr>
<tr>
<td>Medication / Drugs:</td>
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<tr>
<td>Allergies:</td>
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## Please Fax This Form To:

<table>
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<tr>
<th>Hospital Office Use Only</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date of Referral Received</td>
</tr>
<tr>
<td>Number of Days between referral and Appointment Date</td>
</tr>
<tr>
<td>Appointment Date and Time</td>
</tr>
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---

Appendix 6 – Chemotherapy Algorithm
NECN CHEMOTHERAPY TREATMENT ALGORITHM FOR THYROID

“Quality and safety for every patient every time”

Document Control

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<th>Issue Date</th>
<th>Approved By</th>
<th>Review Date</th>
<th>Version</th>
<th>Contributors</th>
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<td>Chemistry group</td>
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<td>Network Pharmacists</td>
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For more information regarding this document, please contact:

NSSG Chair: Dr S Nag
INTRODUCTION

The 2011 Peer Review Chemotherapy Measures require each Network Site Specific group (NSSG) to agree in consultation with the Network Chemotherapy Group (NCG) a set of site specific chemotherapy treatment algorithms for the Network.

Peer Review Definitions

Chemotherapy treatment algorithm
A guideline which specifies the acceptable ranges of regimen options for named steps on the patient pathway. Treatment algorithms are cancer site-specific. Thus, the treatment algorithm for the Thyroid NSSG includes a statement of the range of regimens agreed as acceptable

Chemotherapy
The term 'chemotherapy' refers to the use of those cytotoxic agents commonly understood and accepted as being covered by this term and includes other agents such as, biological therapy and small molecule tyrosine kinase inhibitors used for the systemic treatment of cancer.

In NECN Treatment Algorithms are included in each NSSG’s Clinical Guidelines which can be found under the tumour specific page of the guidelines section of the website, e.g. for Lung Cancer: http://www.necn.nhs.uk/group/lung-nssg/

SUPPORTING DOCUMENTS

As new regimens are approved by NICE / NECDAG protocols for use of the new treatment will be uploaded to the chemotherapy site specific pages. The NSSG will be asked to update their algorithm with each new treatment approval.

The availability of the Cancer Drug Fund (CDF) has increased the number of treatments potentially available to patients. CDF funded drugs may not be included in the NSSG clinical guidelines due to the dynamic nature of CDF funding (i.e. treatments can be removed as well as added).

Any deviation from the algorithm should be recorded by the local Trust clinical chemotherapy service and brought to the NCG for discussion. The Network Policy on managing deviations from approved protocols/ algorithms is on the NECN website, chemotherapy group page: http://www.nescn.nhs.uk/chemotherapy-documents/

LIST OF APPROVED REGIMENS

The NESCN website provides the most up to date list of approved regimens and should be regularly checked. Appendix One below summarises the Thyroid regimens on the website.
THYROID ALGORITHM

THYROID - Papillary and Follicular C73-60(II)30, C73-30(I)10

Aim:
4. Radical local treatment for primary inoperable neck disease or loco regional recurrent disease, especially $^{131}$I negative.
5. To achieve local control in the neck and improve disease free survival as adjuvant treatment for PT4 differentiated thyroid cancer, with residual macro or microscopic disease.
6. To palliate symptoms for recurrent or metastatic disease.

Clinical investigations required

- **Clinical decision to treat**
  - Clinical examination.
  - Fine needle aspirate
  - Surgical operation note if appropriate
  - Histology.
  - PTNM staging
  - Thyroid function studies, thyroglobulin.
  - $^{131}$I scan.
  - Ultrasound /CT/PET scan-(TSH stimulated)

- **Essential for pre treatment processes**
  - Staging CT/US/PET /MR scan where relevant.

Treatment Regime

- **Radiotherapy**
  - **Radical**
    - C73-60(II)30
      - 1. Recurrent disease in the neck which is not amenable to $^{131}$I therapy or further surgery, or locally advanced tumours which are inoperable for a variety of reasons.
  - **Adjuvant**
    - C73-60(II)30
      - 2. Gross evidence of local invasion at surgery, with presumed macro- or microscopic residual disease after surgery, not amenable to $^{131}$I or further surgery.
  - **Palliative**
    - C73-30(I)10
      - 3. To palliate symptoms for recurrent disease in the neck.

- **KINASE INHIBITORS**
  - Restricted to progressive stage disease uncontrolled by surgery, radio-iodine or external beam radiotherapy. Effective agents are Sorafenib, Sunitinib, Pazopanib, E7080.
  - Chemotherapy not favoured.

- **Trials**
  - For current trials contact Clinical Trials Unit on Dect 21955 or refer to intranet http://intranet/NCCT/CTU/research.htm

Pre treatment process

- **Immobilization**
  - **C73-60(II)30**
    - Supine, spine as straight as possible, neck maximally extended.
    - Thermoplastic immobilisation device
  - **C73-30(I)10**
    - Supine, spine as straight as possible, neck maximally extended.
Polyfoam, head and neck shape with chin strap for large volume disease for palliation only. Otherwise, thermoplastic immobilisation device.

<table>
<thead>
<tr>
<th>Localization</th>
<th>1. Planning CT scan - see CT protocol IS02. Volume defined on treatment planning system. PET-CT after TSH stimulation in iodine refractory in PF WHO 0-2 cases if appropriate.</th>
</tr>
</thead>
<tbody>
<tr>
<td>C73-30(I)10</td>
<td>Fields defined on Virtual Simulator for palliative cases.</td>
</tr>
<tr>
<td>Target Definition</td>
<td>The PTV should extend from the angle of the jaw superiorly to the level of the carina inferiorly, and laterally to include the supraclavicular fossae. The areas of interest are the thyroid bed, adjacent lymph node drainage areas, including the deep cervical, para-oesophageal and superior mediastinal nodes. Levels 2-7</td>
</tr>
<tr>
<td>C73-30(I)10</td>
<td>Thyroid bed and immediate adjacent nodes with 0.5-2.0cm margin. Usually Hyoid superiorly and suprasternal notch inferiorly.</td>
</tr>
<tr>
<td>Responsibility</td>
<td>As practitioners in accordance with IR(ME)R, it is the responsibility of the Clinical Consultant Oncologist (CCO) to define the CTV/PTV or supervise the Specialty Registrar (SpR).</td>
</tr>
<tr>
<td>Organs at Risk (ORs)</td>
<td>Cervical and upper thoracic spinal cord. Maximum cord dose if 20 cm or more of cord included should not exceed 46Gy in 23 fractions. Parotid (&lt;26Gy median dose or ALARA) Oesophagus (ALARA) Lungs (V20 &lt; 20) Mouth (45Gy) Larynx and Trachea - ALARA</td>
</tr>
<tr>
<td>Responsibility</td>
<td>As practitioners in accordance with IR(ME)R, it is the responsibility of the CCO to accept the dose to ORs. As operators in accordance with IR(ME)R, it is the responsibility of a member of dose planning to delineate the ORs.</td>
</tr>
<tr>
<td>Prescribed Dose</td>
<td>40-44Gy in 20-22 fractions, daily over 26-30 days. 16-20Gy in 8-10 fractions, daily over 10-15 days. In cases of small volume disease, Phase 2 volume may be planned from the start.</td>
</tr>
<tr>
<td>C73-30(I)10</td>
<td>30 Gy in 10 fractions, daily, over 12-14 days</td>
</tr>
<tr>
<td>Dose Planning</td>
<td>Currently single phase technique is favoured. Usually with TSH stimulated PET-CT planning Usually with Tomotherapy based IMRT (or CRT) with dose escalation if appropriate to 66Gy in PET avid areas in CTV.</td>
</tr>
</tbody>
</table>
Prophylactic nodal disease 54 GY in 30 Fractions with IMRT

Phase I
Conformed treatment technique

Phase II
Conformed treatment technique, planned to reduce dose to spinal cord.
Phase 1 and phase 2 defined on TPS to maintain same isocentre, if possible.

- C73-30(I)10: Parallel opposed, anterior and posterior fields, with lung shielding.

- **Dose Reporting**
  - C73-60(II)30: Dose prescribed at the isocentre (ICRU reference point). Maximum and minimum point doses can be found in the dose volume table of the treatment planning system.
  - C73-30(I)10: Dose prescribed at isocentre.

- **Planning Documentation**
  - C73-60(II)30: Electronic Treatment prescription. Treatment plan protocol. Orthogonal Digitally Re constructed radiographs (DRRs) at the isocentre.
  - C73-30(I)10: Electronic Treatment prescription. Treatment parameter set up sheet. Surface rendered image and/or Digitally Re constructed radiographs (DRRs) at the isocentre.

- **Verification**
  Isocentre defined from internal reference point on the CT scan related to external marks on the skin/ polyfoam / thermoplastic immobilisation device.
  Orthogonal verification images are compared to reference orthogonal DRRs from the planning system.

**Treatment Process**
- **Treatment**
  See Treatment Verification RA04 and Universal Treatment Delivery RA05

- **Information leaflets**
  Radiotherapy Information for Out Patients R/T 1.
  Your Mould Room Appointment R/T 18

- **Treatment Review**
  Patients are reviewed weekly, unless specified by otherwise by the clinician. Review may be carried out by CCO, SpR, treatment review radiographer or clinical nurse specialist where agreed protocols exist.

- **Number of missed fractions**
  Unless otherwise states in the electronic treatment prescription 2 fractions may be missed without prior notification.

- **Side Effects**
  3. **Acute**
  - Skin reaction
  - Mucositis ± odynophagia. (may require aspiration)
  - Tiredness
  - Occasional pneumonitis.
  - L'Hermitte’s syndrome
Concomitant exposure

4. Late
   Oesophageal stenosis/stricture.
   Cartilage necrosis
   Carotid stenosis

Justification for the following concomitant exposures is inherent within this protocol:
   - 2 CT scan episodes as per protocol IS02

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Any additional exposures must be justified by the prescribing clinician.
APPENDIX ONE: NECN APPROVED LIST OF REGIMENS FOR THYROID

Systemic chemotherapy is used infrequently and sparingly in the management of differentiated thyroid cancer because of their toxicity and poor efficacy. However, the following treatment regimen are approved by the Thyroid NSSG. They used to be indicated as first line intervention in symptomatic and progressive iodine refractory DTC, MTC or ATC disease uncontrolled by Surgery.

These have been replaced in recent years by TKIs as first line and only used rarely in cases who are TKI resistant or intolerant.

THYROID REGIMENS

• Adriamycin (Doxorubicin) 40 – 60mg/m²
• Anaplastic Thyroid Tumours Doxorubicin 10mg/m² weekly with /without concurrent radiotherapy.
• Thyroid Protocol - Carboplatin, Epirubicin

Dr U Mallick is in the process of updating and proposing newer regimens for approval by the NSSG in the near future.

MOLECULAR TARGETED THERAPY FOR REFRACTORY DIFFERENTIATED THYROID CANCER AND MEDULLARY THYROID CANCER

Molecular targeted therapies that include the use of tyrosine kinase inhibitors (TKI) are more commonly used in the treatment of refractory differentiated thyroid cancer and medullary thyroid cancer. To date, patients have been treated with these drugs in the context of relevant on going clinical trials.

Out with any trial, the Network has access to Sorafenib which has been approved by NECDAG as NICE recommendation is awaited.
Appendix 7 - NSSG Guidelines for Teenage and Young Adults

Teenage and Young Adults Peer Review Measures Topic 11-1C (Functions of the Network Site Specific Groups for TYA)

1. Teenage and Young Adult Pathway for initial Management

The NSSG has received the document named ‘NECN Teenage and Young Adult Cancer Pathway Guidance Paper’ and agrees to follow the generic TYA Pathway with any site specific variations to be documented. Please see Appendix 1 for pathway.

2. Teenage and Young Adult Pathway for Follow up on completion of first line treatment

Patients aged 19-24 years will adopt the site specific adult follow up pathway on completion of first line treatment. It is acknowledged by both the CYPCG and NSSGs across NECN that further work is required to develop these pathways for this age group and partly in response a TYA working group has been established to take this work forward.

If advice is required regarding the follow up care of a 19-24 year old patient, then the Lead TYA Clinician at the designated hospital or PTC should be contacted. Please see Appendix 2 for contact details.

Patients age 16-18 years will continue to adopt the paediatric and adolescent follow up protocol of the PTC and all advice should be sought direct from the On Call Paediatric Oncologist at Royal Victoria Infirmary 0191 2336161. Paediatric Follow Up Protocols can be found on the CCLG website (2005 second edition) with the exception of trial specific protocols which can be requested via the Children’s Trial Co-ordinator based at the RVI.

3. Pathways for cases involving Specialised NHS services (Only Gynae and Sarcoma)

The Gynae NSSG and SAG reviewed and agreed the Specialised NHS Service pathway for patient’s age 16-24 years. This is attached in Appendix 3.
Appendix 1 – Teenage and Young Adult Pathway for initial Management

Teenage and Young Adult Cancer Pathway – 19 to 24 years old

- Urgent referral made by GP/GDP/screening
- Emergency Admission
- Other source of referral (screening/genetics clinic)
- Assess as per local Tumour Site Specific protocol:
  - Site specific diagnostic investigations
  - May include diagnostic biopsies, but not definitive cancer surgery
- Cancer diagnosed or highly suspicious
  - Patient informed of joint MDT review and place of care options
  - NB MDT discussion should take place in tumour site specific MDT within PTC/TYA designated hospital and TYA MDT
- Review at TYA MDT
- Communication & liaison between MDTs
- Review at PTC/TYADH site specific haematology/oncology/tumour MDT

Joint treatment planning decision agreed, including:
- Diagnosis and treatment modalities/regimen
- Place of treatment delivery, depending on patient age:
  - 16-18 years: PTC facility only (Paediatric & Adolescent Oncology, RVI, Newcastle)
  - 19-24 years: choice of PTC facility (Adult Oncology, FH, Newcastle or TYA designated Hospitals)
- Named consultant in charge of each treatment modality
- The arrangements/referral to provide age appropriate support if the treatment is delivered outside the PTC facility
- The results of the discussion of fertility issues
- Consider entry into clinical trials
- Consider palliative & supportive care needs
- Identify patients key worker

- Abbreviations
  - TYA (Teenage and Young Adults)
  - TYA DU (Teenage and Young Adult Designated Hospitals)
  - PTC (Principal Treatment Centre Newcastle upon Tyne Hospitals)

PTC (RVI or Freeman)—treatment and ongoing care (with options for shared care or supportive care)

Designated TYA hospital treatment with option of TYA MDT outreach support 19—24 yr

Haematological/Oncological Treatment (first definitive treatment)
- Surgery
- Chemotherapy
- Biological therapy
- Radiotherapy

Access response at site specific haematology/oncology/tumour MDT

Consider need for further consolidation treatment

- Relapse or recurrent disease
- Yes
  - Long term follow up protocol
  - Further Treatment
  - Palliative Care
- No

Decision to treat date: 62

First treatment
## Appendix 2 – Contact Details

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<tr>
<th>Name of NHS Trust and designated hospital site</th>
<th>Name of MDT</th>
<th>TYA Lead Clinician</th>
<th>TYA Lead Nurse</th>
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<tr>
<td><strong>Principal Treatment Centre</strong></td>
<td>All MDTs:</td>
<td>Dr Emma Lethbridge</td>
<td>David Short</td>
<td>0191 2448858 (Dec348858)</td>
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<tr>
<td><strong>Gateshead Health NHS Foundation Trust - at Queen Elizabeth Hospital</strong></td>
<td>Specialist Gynaecology</td>
<td>Ms Christine Ang</td>
<td><a href="mailto:helen.mandenville@ghnt.nhs.uk">helen.mandenville@ghnt.nhs.uk</a></td>
<td>0191 4456148</td>
</tr>
<tr>
<td><strong>City Hospitals Sunderland NHS Foundation Trust - at Sunderland Royal Hospital</strong></td>
<td>Haematology</td>
<td>Faye Laverick</td>
<td><a href="mailto:faye.armstrong@chsft.nhs.uk">faye.armstrong@chsft.nhs.uk</a></td>
<td>0191 5656256</td>
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<tr>
<td></td>
<td>Specialist Urology (testicular only)</td>
<td>Dr Scott Marshall</td>
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<td><strong>North Tees and Hartlepool NHS Foundation Trust - at University Hospital of North Tees</strong></td>
<td>All MDTs:</td>
<td>Dr Padmaja Lokireddy</td>
<td>Kat Dawson</td>
<td>01642 617617 ext 24697</td>
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<td></td>
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<td></td>
<td><a href="mailto:Katherine.Dawson@nth.nhs.uk">Katherine.Dawson@nth.nhs.uk</a></td>
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Appendix 3 – NHS Specialised Services Pathway

NHS Specialised Services - Referral Pathway for Primary Malignant Bone Cancer for patients age 16-24 years within the North of England

Paediatrician -> GP -> Radiology/Incidental Finding

Referral to Sarcoma Service at Freeman Hospital Newcastle (FRH)
See Sarcoma pathway for contact details

If age 16-18 years refer to PTC paediatric & adolescent MDT at RVI and Bone & Soft Tissue MDT at FRH

All patients to be discussed at the TYA MDT (see TYA pathway for contact details)

If age 19-24 years refer to Bone & Soft Tissue MDT at FRH

Necessary to refer to National Ewing’s Sarcoma MDT for discussion?

Yes

Submit electronic MDT proforma and link in via WebEx.

Please see Bone & Soft tissue site specific pathway and/or paediatric & adolescent pathway for detail

5 years post treatment for patients age 16-24 years

Age 16-18 at time of diagnosis refer to long term follow up clinic/MDT

Age 19-24 yrs at time of diagnosis follow up on adult protocol

No

Please see Bone & Soft tissue site specific pathway and/or paediatric & adolescent pathway for detail
NHS Specialised Services
Referral Pathway for Hydatidiform Mole / Gestational Trophoblastic Neoplasm / Choriocarcinoma
Weston Park Hospital, Sheffield

Gynaecologist/ Antenatal dept perform U/S or histology
from failed pregnancy confirms hydatidiform mole

Patient referred to Weston Park Hospital Sheffield. Histology
reviewed and patient registered on national programme

Hydatidiform mole diagnosis confirmed on histology

hCG levels return to normal
Complete follow up protocol
Discharge

Patient bloods & urine monitored by Sheffield copies to GP and
referring gynaecologist

hCG levels do not return to normal

Outpatient visit at Sheffield

Staging scan, blood tests, prognostic score, treatment plan at Sheffield

Discuss at Sheffield GTN MDT

Patients age 16-24 yrs refer to TYA MDT @ Sheffield

All Treatment delivered at Sheffield

All follow up carried out by Sheffield (OPC, phone, email & text)

hCG monitoring will be for life via Sheffield.
Copies sent to GP and referring gynaecologist

Low risk methotrexate chemo can be given at local hospital under direction
of Sheffield. If age 16-18 years this should be on teenage unit (RVI). If age
19-24 this should be on Young Adult unit at Newcastle (Freeman) or TYA
Designated Unit at James Cook, Middlesbrough

Patients age 16-24 yrs having low risk chemo to be alerted to
Newcastle TYA MDT