General Principles
This document provides guidance for elective outpatient referrals to the Starship Tertiary Paediatric Respiratory and Sleep Medicine Service (ADHB) from other paediatric and specialist services around New Zealand.

Indications for Referral (See Table at end for specific referral criteria)

The service does not generally accept referrals from primary care. Referrals will generally only be accepted from secondary or tertiary paediatric or surgical services. Exceptions to this include positive newborn screening for cystic fibrosis or where a child has recently moved to New Zealand and already has an established diagnosis of a tertiary Sleep or Respiratory disorder.

The Service accepts referrals to see children who have respiratory or airway disorders that are not able to be managed appropriately in secondary care as they are rare, complex, unusually severe, require specialised investigation, require multi-disciplinary support or are technology-dependent. Other children who do not fit these criteria may nonetheless require referral to the Service.

Children referred to the Service should be under 15 years at time of referral, or (if between 15 and 18) they should still be receiving ongoing Paediatric care from another Paediatric Service. Referrals for adults aged 18 or over will not be accepted by the Service. As we are a tertiary service we would normally expect that the child continue to receive ongoing care from a specialist in the local DHB.

As part of the referral management process the Service may request further history or investigations such as oximetry prior to seeing the child. Following this or as an alternative to an outpatient review some children may be admitted without the need for prior outpatient review. Children can be expected to be seen within 4-6 months of referral.

Virtual consultation:
Some referrals may be for clinical advice, but without the need for a face-to-face review with the patient eg interpretation of investigations such as CT. These referrals may be managed as virtual consultations as per Ministry definitions, and as such counted towards overall contracted volumes.

Referral Requirements:
Referrals should be clearly marked “referral” or “referral for advice”. Written referral letters should be addressed to the Central Referrals Office, ADHB. If a rapid clinical review is needed the letter should state urgent (< 1 month) and should be accompanied by a phone call. Any letters received as “copies to” will be considered for information only and not as referrals. Any referrals not clearly marked or correctly addressed may be overlooked. Referrals may be received by email but should contain the same information as a written letter.

Written referrals for outpatient review should include:
• Specific question or goal of referral
• Relevant history and examination findings
• Summary of all chronic morbidities.
• Summary of previously trialled treatments, management plans etc.
• Risk factors: household cigarette smoke exposure, pets, social pressures, not fully vaccinated etc
• General growth parameters (+ chart where possible), incl birth weight and gestation where relevant.
• Results of all laboratory investigations undertaken in relation to the clinical problem.
• Results of any pulmonary function testing including (where relevant) continuous overnight oximetry and early am capillary blood gas (see Table)
• Relevant imaging on CD-ROM or via PACS

We are happy to discuss specific cases with colleagues if there is uncertainty about the need for a referral, the timing of the request, or in regards to the clinical information to accompany the request. Please discuss the child with the on call SMO. This contact may be managed as a virtual consultation.
# TABLE: COMMON ELECTIVE/OUTPATIENT REFERRALS AND CRITERIA

(This is not a complete or exclusive list of diagnoses)

<table>
<thead>
<tr>
<th>Diagnosis / Symptom</th>
<th>Refer to Respiratory when:</th>
<th>Referral to include:</th>
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| **Asthma**          | • Poor control on combined ICS/LABA therapy  
  • Frequent or continuous oral steroids  
  • Under 2 years of age  
  • Life-threatening exacerbation  
  • Complicating co-morbidities / past medical history | • Assessments done for aspiration/ GOR  
  • Asthma action plan  
  • Allergy testing if appropriate  
  • Sweat test (if appropriate for chronic symptoms) |
| **Chronic cough / Recurrent pneumonia** | • Persistent CXR changes  
  • Recurrent pneumonia (≥ 2 in a year or 3 ever)  
  • & underlying cause not identified by initial investigation | • CXR  
  • Spirometry (if age appropriate)  
  • Results of initial chronic cough work up as per Starship guidelines |
| **Recurrent bronchiolitis** | • Recurrent episodes (≥ 3/year & ongoing after initial investigation)  
  • Prolonged admission (> 2 weeks)  
  • Failure to thrive, Persistent abnormal symptoms or signs even when well (> 6 weeks) | • SLT assessment  
  results of initial chronic cough work up as per Starship guidelines |
| **Bronchiectasis (non CF) or bronchiolitis obliterans (B.O.):** | • To confirm diagnosis esp if GA required for HRCT chest  
  • Multi-disciplinary review required  
  • Hypoxia or respiratory failure  
  • Severe disease on CT or spirometry (FEV1 < 70%)  
  • Impaired exercise capacity or ADLs  
  • Failure to thrive  
  • Recurrent admission  
  • Consideration of transplant | • Results of initial chronic cough work up as per Starship guidelines  
  • Any other immune testing  
  • For B.O. - bronchodilator responsiveness results (if available locally)  
  • HRCT (insp and exp views) |
| **Interstitial lung disease** | • If diagnosis suspected and is supported by clinical history of underlying diagnosis, clinical signs, investigations | • Results of initial work-up |
| **Congenital airway or parenchymal lung anomalies** | • Chronic respiratory morbidity in presence of known anomaly  
  • Clinical and/or radiological investigation suggests anomaly which cannot be further investigated at local hospital | • Markers of respiratory morbidity: admissions, antibiotic use, exercise capacity etc  
  • Results of initial work-up |
| **Unexplained chronic O2 need in non ex preterm child** | • Non pulmonary causes excluded e.g. Cyanotic heart disease, shunts, liver disease spurious oximetry results, recurrent aspiration etc | • Oximetry & CO2  
  • echocardiogram  
  • SLT assessment |
| **Cystic fibrosis** | • If diagnostic uncertainty exists  
  • Multi-disciplinary review required (incl all Auckland region patients)  
  • Hypoxia or respiratory failure  
  • Severe lung disease on CT or spirometry (FEV1 < 70%)  
  • Impaired exercise capacity or ADLs  
  • Failure to thrive  
  • Recurrent admission  
  • Consideration of transplant | • Sweat test & CF genotype  
  • relevant added tests e.g: nutrition, GTT, coeliac Ab’s, nutritional intake, faecal fat and chymotrypsin |
| **Chronic neonatal lung disease (CNLD/BPD)** | • Oxygen requirement ≥ 0.5 L/min  
  • Poor growth / feeding difficulties  
  • Persisting oxygen requirement past 12 months corrected age  
  • Complicating co-morbidities / past medical history | • ECG/Echo  
  • Oximetry & CO2 |
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<td>Primary ciliary dyskinesia (for nasal ciliary brushing in conjunction with exhaled and nasal nitric oxide testing)</td>
<td>• Persistent wet cough or recurrent LRTI in setting of oto-sinus disease and/or situs inversus</td>
<td>• Sweat test*&lt;br&gt;• First line immune testing*&lt;br&gt;• Nasal NO (if locally available)&lt;br&gt;*Referrals will not be accepted without these results</td>
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<td>Pulmonary hypertension - non cardiac</td>
<td>• Suspected or confirmed pulmonary hypertension in setting of underlying non-cardiac problem associated with pulmonary hypertension</td>
<td>• Echo results&lt;br&gt;• 6MWT - if available locally&lt;br&gt;• DLCO - if available locally&lt;br&gt;• Results of initial work up</td>
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<td>Sleep disordered breathing / sleep apnoea / noisy breathing</td>
<td>• Symptoms of sleep disordered breathing despite primary intervention (adeno-tonsillectomy / nasal steroids), • Or primary intervention inappropriate or high risk</td>
<td>• ORL findings incl tonsil size&lt;br&gt;• Overnight oximetry &amp; questionnaire&lt;br&gt;• Prior ORL* evaluations and any sleep studies&lt;br&gt;* Stridor should generally be referred to ORL service in first instance</td>
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<td>Neuromuscular weakness with possible respiratory complications</td>
<td>• On loss of ambulation&lt;br&gt;• Asymptomatic and FVC below 60%&lt;br&gt;• Symptoms of sleep disordered breathing&lt;br&gt;• Atelectasis or recurrent pneumonia&lt;br&gt;• Swallowing difficulties&lt;br&gt;• Weak cough or difficulty clearing secretions&lt;br&gt;• Multi-disciplinary review required (incl respiratory physiotherapy assessment or training for cough-assist devices)&lt;br&gt;• Evolving chest wall deformity&lt;br&gt;• Specific diagnoses – eg SMA 1</td>
<td>• Overnight oximetry study&lt;br&gt;• Capillary blood gas (if available)&lt;br&gt;• Sleep disordered breathing questionnaire&lt;br&gt;• Lung function (spirometry and peak cough flow) if available</td>
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<td>Excessive daytime somnolence</td>
<td>• Suspected primary sleep disorder requiring polysomnographic evaluation (eg narcolepsy, PLMS)</td>
<td>• Results of initial work up (FBC, iron studies, thyroid function)&lt;br&gt;• overnight oximetry&lt;br&gt;• sleep questionnaire</td>
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<td>Need for specialised respiratory investigation and/or interpretation of results</td>
<td>• eg spirometry, lung volume measurements, DLCO, exercise bronchial challenge, hypertonic saline challenge, bronchodilator response, exhaled and nasal nitric oxide measurement, flexible bronchoscopy and broncho-alveolar lavage, lung biopsy, nasal ciliary brushings, specialised radiology of the lungs and mediastinum, sleep studies (polysomnography, transcutaneous carbon dioxide monitoring [TOSCA]), 6 minute walk test, assessment for risk of hypoxia during air travel (&quot;hypoxic flight challenge&quot;).</td>
<td>• Results of initial work-up for clinical referrals&lt;br&gt;• Clear statement of which test is required</td>
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<td>PICU admission</td>
<td>• Children who have needed PICU admissions for a respiratory disease (excluding a single admission for bronchiolitis)*&lt;br&gt;*Upper airway disorders/stridor should generally be referred to ORL</td>
<td>• Results of initial workup&lt;br&gt;• SLT evaluation (identification of a clear cause may make respiratory referral unnecessary)</td>
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These guidelines are open to revision. We welcome all comments and suggestions from colleagues around the country on the utility and clarity of this document.

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Paediatric Respiratory Referral Criteria  
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