Respiratory Practice Review™

Making Education Easy

Issue 27 - 2025

In this issue:

Abbreviations used in this issue:

aPAP = autoimmune pulmonary alveolar proteinosis; **BMI** = body mass index; **CDC** = Centres for Disease Control and Prevention; **CI** = confidence interval; **COPD** = chronic obstructive pulmonary disease; **CRR** = complete response rate; **CT** = computed tomography; **CTA** = CT angiography; **DLCO** = diffusing capacity of the lungs for carbon monoxide; **ESC** = European Society of Cardiology; **FEV1** = forced expiratory volume in 1 second; **GM-CSF** = granulocyte–macrophage colony-stimulating factor; **IV** = intravenous; **NSCLC** = non-small cell lung cancer; **OPA** = Online PBS Authorities; **ORR** = objective response rate; **OSA** = obstructive sleep apnoea; **PBAC** = Pharmaceutical Benefits Advisory Committee; **PBS** = Pharmaceutical Benefits Scheme; **PE** = pulmonary embolism; **PFS** = progression-free survival; **RET** = rearranged during transfection; **RSV** = respiratory syncytial virus; **SAD** = small airways disease; **SCLC** = small cell lung cancer; **TSANZ** = Thoracic Society of Australia and New Zealand.

Welcome to the 27th issue of Respiratory Practice Review.

This Review covers news and issues relevant to clinical practice in respiratory disorders. It will bring you the latest updates, both locally and around the globe, on new and updated treatment guidelines, changes to medicine reimbursement and licensing, educational and professional body news and more. Finally, on the back cover, you will find our resources and a summary of upcoming local and international educational opportunities including workshops, webinars and conferences.

We hope you enjoy this Research Review publication and look forward to hearing your comments and feedback.

Kind Regards,

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Clinical Practice

Australasian Bronchiolitis Guideline: 2025 Update

Bronchiolitis is an acute respiratory condition most frequently associated with respiratory syncytial virus (RSV) infection, that typically affects infants aged <12 months. It is one of the most common causes of hospital admissions in Australia and New Zealand.

The 2025 PREDICT Australasian Bronchiolitis Guideline Development Committee has revised the 2016 Australasian guidelines. The updated guideline contains 41 recommendations, including 11 new recommendations and 7 key updates:

- Physical exam and history – there have been no changes to the key clinical signs and symptoms of bronchiolitis, although extra signs and symptoms have been added, i.e. feeding difficulties, vomiting, dehydration, hypoxaemia, lethargy, uncommonly (<5%) diarrhoea, and rarely (<2%) apnoea
- Risk factors – the following risk factors have been added to the recommendation: trisomy 21, economic disadvantage, congenital diaphragmatic hernia, other genetic disorders, and the timing of illness onset at hospital presentation. Clinicians are encouraged to consider gestational age, chronological age, breastfeeding and exposure to tobacco smoke exposure as continuous risk factors, i.e. the risk is increased with lower gestational or chronological age, less breastfeeding exposure, and more tobacco smoke exposure.
- Laboratory tests – urine testing for suspected urinary tract infection was removed as a recommendation. Urine testing may be considered to support a diagnosis of serious bacterial co-infection in infants with unexpected deterioration. Testing of glucose and/or sodium levels may be considered in infants with bronchiolitis and poor feeding, dehydration or an altered mental state.
- Criteria for safe discharge – a prescriptive flow chart has been developed. Criteria now include specific oxygen saturation targets and indicators of adequate feeding, with criteria specific to ED and ward discharge. Social factors relating to discharge have also been added.
- Glucocorticoids - combined glucocorticoid and adrenaline treatment may be considered in infants with severe bronchiolitis who require ICU level care
- Saturation targets – supplemental oxygen should be used if SpO_2 is persistently <90% in infants aged ≥6 weeks. For infants aged <6 weeks or <12 months with an underlying condition, supplemental oxygen should be used if SpO_2 is persistently <92%.
- Non-oral hydration – continuous or bolus methods of nasogastric non-oral hydration may be considered with oral rehydration solution, breast milk, or formula in infants admitted to hospital. In this setting, nasogastric is the preferred route of non-oral hydration.
- Infection control practises – multicomponent infection control measures, e.g. gowns and masks, may be considered, in addition to hand hygiene practices and cohorting patients in wards.

New topics to the 2025 guideline include chest X-ray, SARS-CoV-2 treatment, monoclonal antibody therapy, maternal RSV immunisation, and infant RSV immunisation.

J Paediatr Child Health. 2025 Jul 20.

Optimal approach to performing and reporting computed tomography angiography for suspected acute pulmonary embolism: A Clinical Consensus Statement

If pulmonary embolism (PE) cannot be ruled out using a clinical decision-making tool and D-dimer test, computed tomography (CT) angiography (CTA) is the preferred imaging modality for diagnosing PE. CTA can provide an enormous amount of information, therefore writing CTA reports in a way that clearly conveys all relevant findings and uses consistent nomenclature, can be an issue. This clinical consensus statement from the European Society of Cardiology (ESC) Working Group on Pulmonary Circulation & Right Ventricular Function, the Fleischner Society, and the Association for Acute Cardiovascular Care and the European Association of Cardiovascular Imaging of the ESC provides an update of CTA techniques, definitions of commonly used nomenclature, recommendations for CTA report content, and a detailed image atlas with instructions on how to assess CTA findings.

The Statement includes a summary of the key scanning parameters for an optimised CTA examination in adults. Also included are special considerations for CTA protocol optimisation for PE in patients who are pregnant. The diagnostic value of mediastinal images alone, perfusion images, and combined readings of mediastinal and perfusion images is summarised. The most frequent causes of nondiagnostic CTA scans are discussed, including the findings of a poor level of opacification within Pas, transient interruption on contrast, motion artifacts and streak artifacts. Solutions are provided to improve image quality. A glossary of CT findings is provided to define the spectrum of pulmonary artery filling defects, including: acute PE, central PE, chronic PE, embolus, incidental PE, *in situ* pulmonary thrombus, isolated segmental PE, peripheral PE, pulmonary artery filling defect, pulmonary thrombosis, reduced pulmonary contrast enhancement, right ventricular dilatation, right ventricular dilatation, right ventricular hypertrophy, saddle embolism, subacute PE, subsegmental PE, and thrombus.

The results of Delphi analysis (≥80% agreement) on core CTA findings to be included in radiology reports includes right ventricular/left ventricular ratio (axial images), central location, (isolated) subsegmental PE, septum deviation, pulmonary artery trunk diameter, organised mural thrombi, complete arterial occlusion, intravascular webs or bands, pulmonary artery retraction, bronchial artery dilation, and right ventricular hypertrophy.

Radiology. 2025 Jun;315(3):e243833.

Machine listening for OSA diagnosis

Overnight polysomnography is the gold-standard for the diagnosis of obstructive sleep apnoea (OSA), however, the technique requires inpatient beds in a tertiary sleep centre, specialised equipment and trained technicians. Recent advances in artificial intelligence (AI) have spurred interest in the detection of OSA using breathing sound recordings. This study asked, what is the diagnostic accuracy of machine listening for OSA, and how can it be optimised?

From 16 studies with 6,254 patient records, machine listening achieved a sensitivity of 90.3% (86.9%-93.1%), a specificity of 86.7% (83.1%-89.7%) and a diagnostic odds ratio of 60.8 (39.4-99.9). Increased sensitivity was reported for higher audio sampling frequencies, non-contact microphones, higher OSA prevalence, and train-test split model evaluation. The accuracy of diagnosis was equal for smartphone vs in-laboratory recordings, and with variations in age and sex.

Overall, machine listening achieved excellent diagnostic accuracy and was superior to the STOP-Bang (snoring, tiredness, observed apnoea, blood pressure, body mass index [BMI], age, neck size, gender) questionnaire and comparable to common home sleep apnoea tests.

Chest. 2025 Aug;168(2):520-530.

Selpercatinib for RET fusion-positive non-small cell lung cancer

The oral RET (rearranged during transfection) kinase inhibitor selpercatinib recently received provisional Australian approval for the treatment of adults with advanced or metastatic RET fusion-positive non-small cell lung cancer (NSCLC). Selpercatinib may be considered for first or second-line therapy in patients with RET fusion-positive NSCLC.

Selpercatinib is a novel, highly selective and potent small-molecule RET kinase inhibitor that can penetrate the central nervous system. The RET gene encodes a transmembrane receptor kinase. RET gene fusions promote cancer growth, are associated with a high risk of brain metastases and occur in 1-2% of NSCLC cases.

Selpercatinib was provisionally approved following interim analysis of the phase I/II LIBERETTO-001 trial that included 247 patients with RET fusion-positive NSCLC who had received platinum-based chemotherapy, and 69 treatment-naïve patients with RET fusion-positive NSCLC. The primary outcome of the trial was objective response rate (ORR). The ORR in treatment-naïve patients was 82.6% (complete response rate [CRR] 8.1%) and 61.5% in previously treated patients (CRR 7.2%). Progression-free survival (PFS) was 26.2 months in previously treated patients and 22.0 months in treatment-naïve patients. Measurable brain metastases were present at baseline in 26 patients, with an ORR of 85% (CRR 27%).

In an ongoing phase III study, selpercatinib demonstrated significantly longer PFS (24.8 months vs. 11.2 months) compared to pemetrexed with platinum-based therapy, with or without pembrolizumab, in patients with RET fusion-positive NSCLC.

Grade ≥3 adverse effects associated with selpercatinib included hypertension (19.6%), decreased lymphocyte count (17.6%), hypothyroidism (15.4%), elevated alanine aminotransferase (10.7%), elevated aspartate aminotransferase (9.7%), diarrhoea (5%) and prolonged QT interval (4.8%). Monitoring for symptoms of interstitial lung disease or pneumonitis during treatment is recommended due to a potential increased risk of pneumonia.

Aust Prescr 2025;48:151-2.

Inhaled molgramostim in autoimmune pulmonary alveolar proteinosis

Autoimmune pulmonary alveolar proteinosis (aPAP) is a rare disease characterised by abnormal pulmonary surfactant accumulation, myeloid cell dysfunction and innate immune deficiency. The progressive accumulation of surfactant and subsequent hypoxemia is caused by autoantibodies against granulocyte–macrophage colony-stimulating factor (GM-CSF) that alveolar macrophages need to clear surfactant. aPAP has a prevalence of 7-10 cases per million population and accounts for 90% of all cases of pulmonary alveolar proteinosis.

Molgramostim is an inhaled, once-daily formulation of recombinant human GM-CSF that was randomised to 81 patients with aPAP and compared to treatment of 83 patients receiving placebo, in this double-blind phase III trial. The primary end point was the change from baseline to week 24 in the diffusing capacity of the lungs for carbon monoxide (DLCO).

The DLCO least-squares mean change from baseline to week 24 for molgramostim was 9.8 percentage points (95% CI, 7.3-12.3) and 3.8 percentage points for placebo (CI, 1.4-6.3; $p<0.001$). At week 48, the difference in DLCO from baseline was 11.6 percentage points (CI, 8.7-14.5) for molgramostim and 4.7 percentage points for placebo (CI, 1.8-7.6; $p<0.001$). The rate of adverse events and serious adverse events were similar between the two treatment groups.

It was concluded that the once-daily inhalation of recombinant human GM-CSF molgramostim improved pulmonary gas transfer in patients with aPAP. A discussion by the lead study author on the scientific foundations of this trial (IMPALA-2) is available here.

N Engl J Med. 2025 Aug 21;393(8):764-773.

Earn CPD

Nursing and Midwifery Board of Australia (NMBA) Journal reading and watching videos (including Research Reviews') may be considered a self-directed activity set out in the NMBA Registration Standard: Continuing Professional Development. One hour of active learning will equal one hour of CPD. Details at NMBA CPD page.

Interpreting respiratory oscillometry in adults with asthma or COPD

Respiratory oscillometry is a non-invasive lung function test that interrogates the impedance of the respiratory system by superimposing oscillatory pressure waves at the mouth during tidal breathing. Respiratory oscillometry is being increasingly used in the setting of asthma and chronic obstructive pulmonary disease (COPD) as access to devices increase, technical standards are published and normative population data is collected. This Delphi study aimed to aid the interpretation of respiratory oscillometry in clinical practice in patients with asthma and COPD via expert consensus.

Respiratory oscillometry complements spirometry as it is a more sensitive indicator of small airways dysfunction (SAD) and can therefore aid the diagnosis of asthma in patients with preserved spirometry. Adding oscillometry to forced expiratory volume in 1 second (FEV1) results in improved identification of poor asthma control and exacerbation risk than spirometry alone. In patients with COPD, reactance indicates the amount of communicating lung volume and is related to the extent of gas trapping and hyperinflation, and ventilatory variations in the lungs.

The key measures in respiratory oscillometry are airway and tissue resistance to flow (Rrs), a measure of airway calibre, and airway reactance (Xrs), a measure of the stiffness of the respiratory system. The parameters that are most frequently reported in respiratory oscillometry are resistance (R5) and reactance (X5) at low frequencies (5 Hz), the frequency dependence of resistance, and the area under the reactance curve (AX).

Respiratory oscillometry was agreed to be clinically useful for:

1. Grading the severity of lung dysfunction
2. Measuring a bronchodilator response
3. Assessing meaningful changes in lung function between visits.

It was agreed that Z-scores can be used to determine abnormalities in R5, X5 and AX. Percentage change should be used to interpret bronchodilator response as a definition of a significant response did not reach consensus. There was agreement that percentage change in oscillometry results beyond day-to-day variation could be used to identify a minimally clinically important difference, however, there was no consensus supporting the use of absolute values to identify this.

ERJ Open Research 2025 00398-2025.

Respiratory nurse leadership requires increased profile, role clarity and stronger career pathways: TSANZ Position Statement

Respiratory nurses play an integral role in the promotion and management of lung health, thereby helping to minimise the heath burden and health system costs caused by lung disease. In recognition of the importance of respiratory nurses, the Thoracic Society of Australia and New Zealand (TSANZ) have endorsed a Position Statement presenting the priorities for the recognition of respiratory nursing as a specific field of expertise. The Statement contains 14 priorities that are grouped into three overarching themes:

Priority 1: Raise the profile and influence of nurses:

- Promote respiratory nurses in nursing professional bodies
- Promote nurses into positions of decision-making and influence
- Position respiratory nurses as a 'national voice' within lung health
- Promote equity and access of respiratory nurses as experts and key speakers
- Develop pathways and succession planning to develop future leaders.

Priority 2: Define respiratory nursing as a specialised discipline:

- Articulate pathways of speciality in clinical leadership, education, management and research
- Promote nurse-led lung health research
- Articulate varied specialisation
- Create a shared vision, mission and values.

Priority 3: Articulate career progression frameworks as a roadmap for nurses seeking respiratory specialisation:

- Advocate for specialist respiratory nurse roles
- Articulate pathways of speciality from novice to expert
- Articulate respiratory nursing curriculum and qualifications
- Grow the workforce via promotion of the profession and pathways of specialisation
- Advocate for respiratory nursing as a core component of the undergraduate nursing curriculum.

Respirology. 2025 Jul 4.

Regulatory News

Recommendations from the July 2025 PBAC meeting

At their July 2025 meeting, the Pharmaceutical Benefits Advisory Committee (PBAC) made the following listing recommendations:

- Durvalumab (Imfinzi®) intravenous infusion (IV) for the treatment of limited-stage small cell lung cancer (SCLC) in patients whose disease has not progressed during or following chemoradiation therapy
- Osimertinib (Tagrisso®) oral tablets for the treatment of locally advanced (Stage III) epidermal growth factor receptor pathogenic variant positive NSCLC that has not progressed during or following platinum-based chemoradiation therapy, that cannot be surgically removed.

Read more here.

Changes to the format and availability of omalizumab (Xolair®)

Since 1 August 2025, the availability and format of Xolair® (omalizumab) on the Pharmaceutical Benefits Scheme (PBS) changed for patients with uncontrolled severe asthma or allergic asthma, and severe chronic spontaneous urticaria. The Department of Health and Services Australia issued the following advice on 7 August 2025:

Xolair® prescribers - online authorities

- There is an issue where the Online PBS Authorities (OPA) application is issuing a rejection which is RC820.
- Prescribers receiving this error are directed to phone Services Australia 1800 700 270 and **ask for them to override the rejection.**
- Services Australia are implementing an urgent ICT fix.
- There are reports that currently there is no stock of the biosimilar*, Omlyclo® (omalizumab) pre-filled syringes nationally, leaving patients with significant challenges to access their treatment. The biosimilar was listed on the PBS on 1 August 2025.

Xolair® dispensing

- Approved suppliers can dispense either 150mg pen device (Xolair®) or 150mg syringe biosimilar
- Patients DO NOT need to obtain a new prescription
- Please note, at this stage the rejection error is still being rectified by Services Australia. Please contact Services Australia should you continue to encounter any issues.

For Pharmacies regarding the 75mg Xolair® device:

- Some pharmacies are receiving PBS Online claim rejections R738 (the item provided was not a PBS benefit as at the date of prescribing) due to an incorrect grouping between item codes.
- Services Australia will monitor and honour eligible PBS claims in a separate payment after the date is corrected in the 1 Sept schedule update. Contact Services Australia for more information on 1800 700 270.

Read more here.

News in Brief

Prediction pathway for severe asthma exacerbations

A prediction pathway for severe asthma exacerbations has been identified involving the effect of chronic rhinosinusitis on the immediate predictors of risk transition from current to future severe asthma exacerbations.

Chest. 2025 Aug;168(2):301-316.

Common cold coronavirus positivity decreases

The results of a study using data from 2015 to 2024 suggests that common cold coronavirus infections, but not RSV or influenza virus infections have decreased significantly in recent respiratory seasons in the Northern hemisphere.

Open Forum Infect Dis. 2025 Jun 18;12(7):ofaf326.

Statement from Medical Association Liaisons to Advisory Committee on Immunization Practices on being barred from nation's vaccine review process

A joint statement has been issued from eight Medical Association Liaison organisations regarding their exclusion from the Advisory Committee on Immunization Practices.

Read more here.

US abandons mRNA vaccine development despite triumphs

This article discusses the recent decision by the U.S. Department of Health and Human Services to cancel almost $500 million dollars in funding for mRNA vaccine projects, despite mRNA vaccines being safe and effective according to the Centres for Disease Control and Prevention (CDC).

Read more here.

Earn CPD

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Conferences, Workshops, and CPD

Please click on the links below for upcoming local and international respiratory meetings, workshops, and CPD.

TSANZ – Events

European Respiratory Society – Events

European Respiratory Society – CPD

American Thoracic Society – Events

Research Review Publications

COPD Research Review with Dr Stephen Milne

Lung Cancer Research Review with Drs Malinda Itchins, Divyanshu 'Divy' Dua, Michael Krasovitsky and Sagun Parakh

Respiratory Research Review with Profs Peter Wark and Simon Bowler and A/Prof Belinda Miller

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