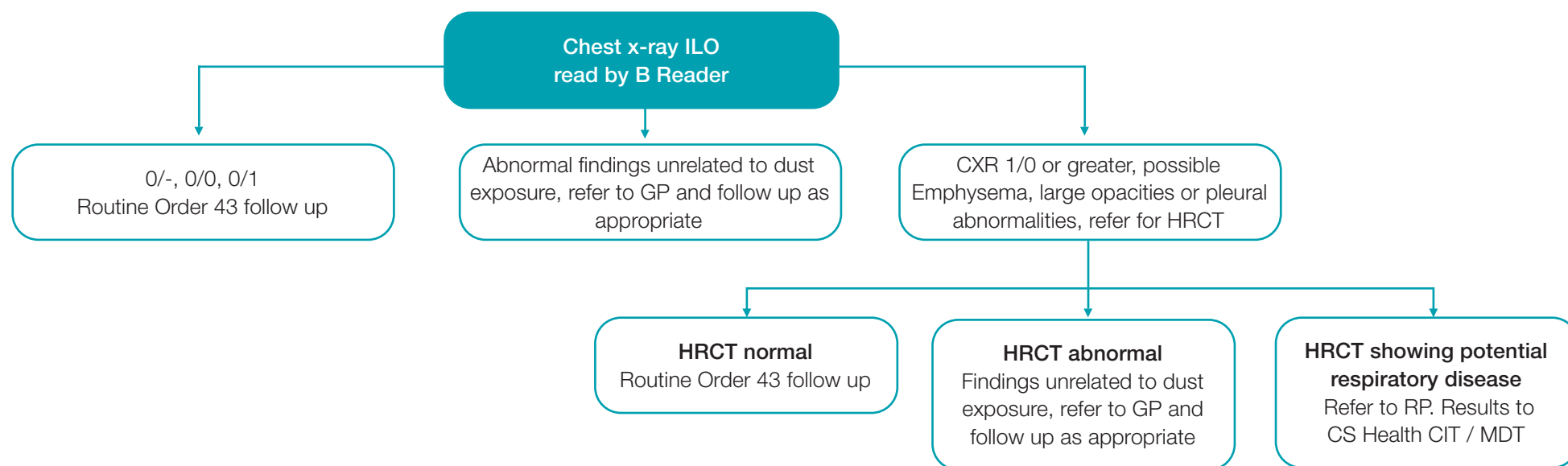


Clinical pathways for coal mine dust lung disease monitoring

These pathways are designed for Approved Medical Practitioners to use with coal mine workers not already known to have coal mine dust lung disease (CMDLD) or currently under investigation for possible disease.

The coal mine worker is assessed under three pathways: chest x-ray, clinical findings and symptoms and spirometry. Positive findings under any pathway in isolation, or with others, can result in further investigation.

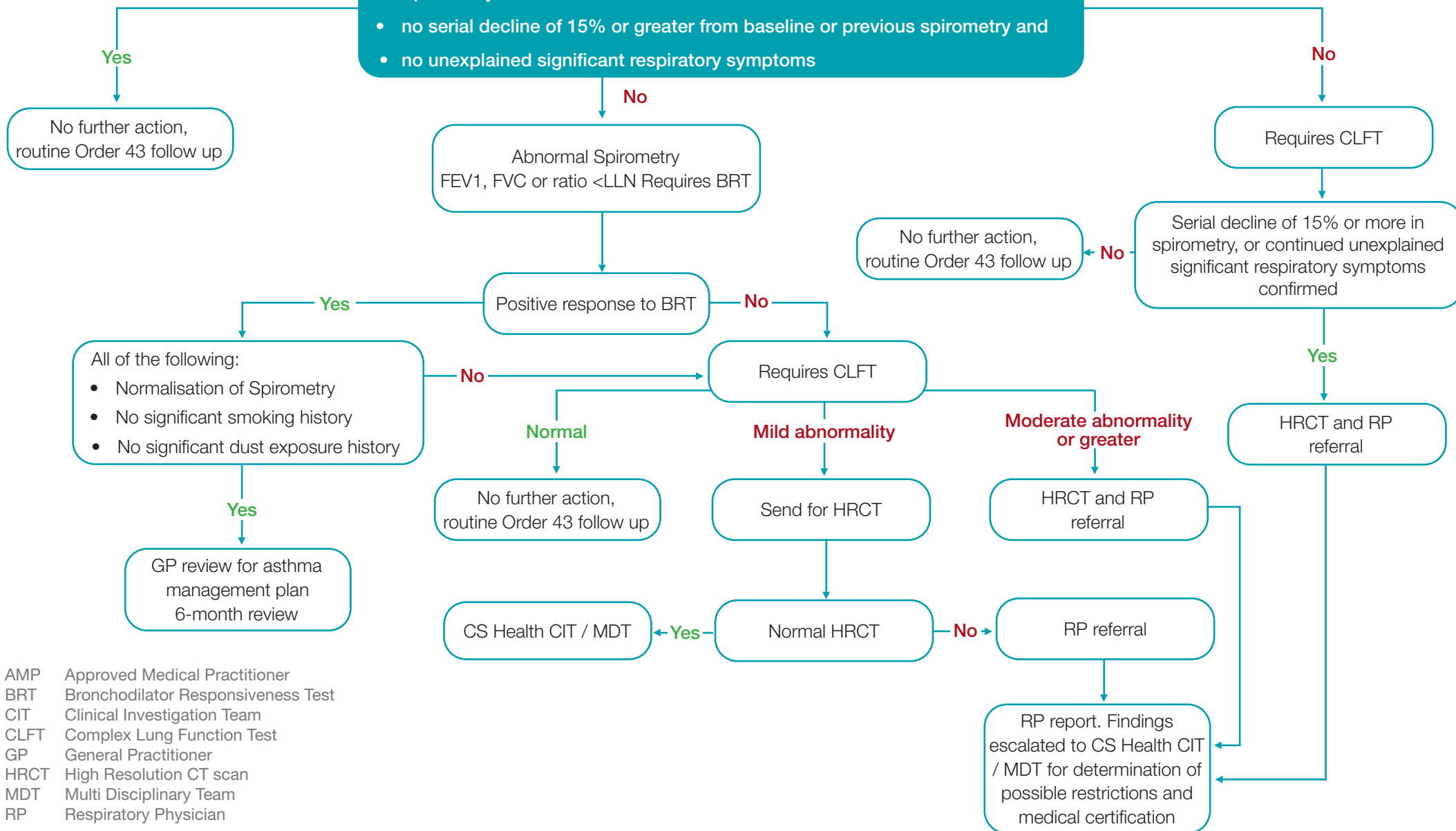
If an Approved Medical Practitioner (AMP) has any doubts in regards to the management of a case, the AMP must contact the CS Health Clinical Investigation Team to discuss.



AMP Approved Medical Practitioner
 CIT Clinical Investigation Team
 GP General Practitioner
 HRCT High Resolution CT scan
 MDT Multi Disciplinary Team
 RP Respiratory Physician

Spirometry / Symptoms

- Spirometry normal and
- no serial decline of 15% or greater from baseline or previous spirometry and
- no unexplained significant respiratory symptoms



Supporting notes

1. Radiology

- a. Radiology must comply with the requirements of Order 43.
- b. The assessing doctor must ensure that incidental findings, mild or serious, are followed up appropriately with consideration given to any effect on work or follow up.
- c. HRCT for existing NSW coal mine workers can be booked through CS Health.
- d. Any indication of potential respiratory disease on radiology must be investigated.
- e. HRCT must be consistent with any requirements under Order 43 as may be updated from time to time.
- f. Results requiring assessment by a respiratory physician should be handled as per note 6 below.

2. Spirometry

- a. Only approved health professionals can complete spirometry testing.
- b. The spirometry must comply with the *2022 Thoracic Society of Australia and New Zealand Standards for the delivery of Spirometry for Resource Sector Workers*.
- c. Bronchodilator responsiveness testing is indicated for FEV1, FVC or FEV1/FVC levels below the lower limit of normal.
- d. Only grade A or B spirometry is suitable for respiratory health monitoring purposes.
- e. Escalation triggers are based on pre-bronchodilator readings.

3. Further clinical investigation

- a. Results must be interpreted in the context of the medical and exposure history. Where there is a history of a recent respiratory illness, consider retesting within three months.
- b. A positive bronchodilator responsiveness test does not necessarily exclude disease from coal mine dust or other exposures and must be interpreted in the context of the medical and exposure history.
- c. Further clinical investigation is still indicated for significant respiratory symptoms even when spirometry is normal.
- d. Complex lung function testing may be organised through Coal Services for existing NSW coal mine workers, a TSANZ accredited respiratory function laboratory if available, respiratory physician or other health professional able to demonstrate spirometry and DLCO training suitable to Coal Services. Providers not accredited by TSANZ must provide evidence of currency of calibration for any equipment used.

4. Early or mild lung function impairment – meets all the criteria of one or more of the following:

- a. Rapid decline
 - i. longitudinal decline since baseline in percent predicted FEV1 or FVC $\geq 15\%$ and
 - ii. absolute FEV1 \geq LLN.
 - b. Isolated mild diffusion impairment:
 - i. DLCO $> 60\%$ of reference and $< \text{LLN}$.
 - c. Early obstructive abnormality:
 - i. absolute FEV1/FVC ratio $< \text{LLN}$, and
 - ii. absolute FEV1 $\geq \text{LLN}$, and
 - iii. absolute FVC $\geq \text{LLN}$.
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- a. Mild obstructive abnormality:
 - i. absolute FEV1/FVC ratio < LLN, and
 - ii. absolute FEV1 < LLN, and
 - iii. percent predicted FEV1 \geq 70% reference, and
 - iv. absolute FVC \geq LLN.
- b. Mild mixed obstructive abnormality/restrictive pattern:
 - i. absolute FEV1/FVC ratio < LLN, and
 - ii. absolute FEV1 < LLN, and
 - iii. percent predicted FEV1 \geq 70% reference, and
 - iv. absolute FVC < LLN.
- c. Mild restrictive pattern:
 - i. absolute FEV1/FVC ratio \geq LLN, and
 - ii. absolute FVC < LLN, and
 - iii. absolute FEV1 normal or < LLN, and
 - iv. percent predicted FEV1 \geq 70% reference.

Notes:

- *confirmed restriction if absolute TLC < LLN*
- *non-specific ventilatory impairment if absolute TLC \geq LLN*

- 5. Referral for HRCT is indicated for abnormalities confirmed on complex lung function testing. The result may indicate whether the condition requires further assessment by a respiratory physician or can be managed with the information at hand.
- 6. Cases assessed by external providers involving existing NSW coal mine workers requiring referral to a respiratory physician should be notified to the CS Health Clinical Investigation Team. In other cases, consideration should be given to referring to respiratory physicians on the TSANZ Register of Physicians for Resource Sector Workers' Health (TSANZ Register).
- 7. Any unexplained significant respiratory symptoms require investigation.
- 8. Variations to the guideline may be made where there are appropriate clinical indications. The reasons must be clearly documented.

Practical considerations and transitional arrangements

- New to NSW coal industry – must complete investigation pathways before medical clearance.
 - Availability of CLFT and RP assessments may affect timing of assessments and may require restrictions in some cases before investigations are completed.
 - Periodic – possible restrictions during investigation phase will depend on clinical findings and role.
 - Existing NSW coal mine workers having pre-placement assessments may need restrictions consistent with published guidelines based on preliminary findings.
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