

CMWHS Clinical Pathways Guideline

Purpose

The Coal Mine Workers' Health Scheme (CMWHS) Clinical Pathways Guideline (the Guideline) documents the recommended process for follow-up investigation and referral to appropriate medical specialists of workers with abnormal results on screening tests. The Guideline will assist in reaching a diagnosis on potential cases of coal mine dust lung disease (CMDLD) in a reasonable time frame, reducing worker anxiety and providing more consistent outcomes.

Background

Monash University in collaboration with the University of Illinois at Chicago completed an independent review of the respiratory component of the CMWHS in 2016. The review was commissioned by the Queensland Government after new cases of coal workers' pneumoconiosis (CWP) were identified. One of the review's recommendations was that a clinical pathway for follow-up investigation and referral should be developed and incorporated into the CMWHS. The CMWHS provides compulsory pre-employment, periodic and retirement medical examinations of coal mine workers employed in Queensland.

The Guidelines were developed by the CMDLD Collaborative Group, a group of health specialists from the Australasian Faculty of Occupational and Environmental Medicine, the Thoracic Society of Australia and New Zealand, the Australian and New Zealand Society of Occupational Medicine and the Royal Australian and New Zealand College of Radiologists. The group is supported by Professor Robert Cohen MD of the University of Illinois at Chicago, Queensland Health and the Department of Natural Resources, Mines and Energy (DNRME).

The Guidelines have been endorsed by Queensland's Chief Health Officer, the Royal Australasian College of Physicians and its Australasian Faculty of Occupational and Environmental Medicine.

Implementation

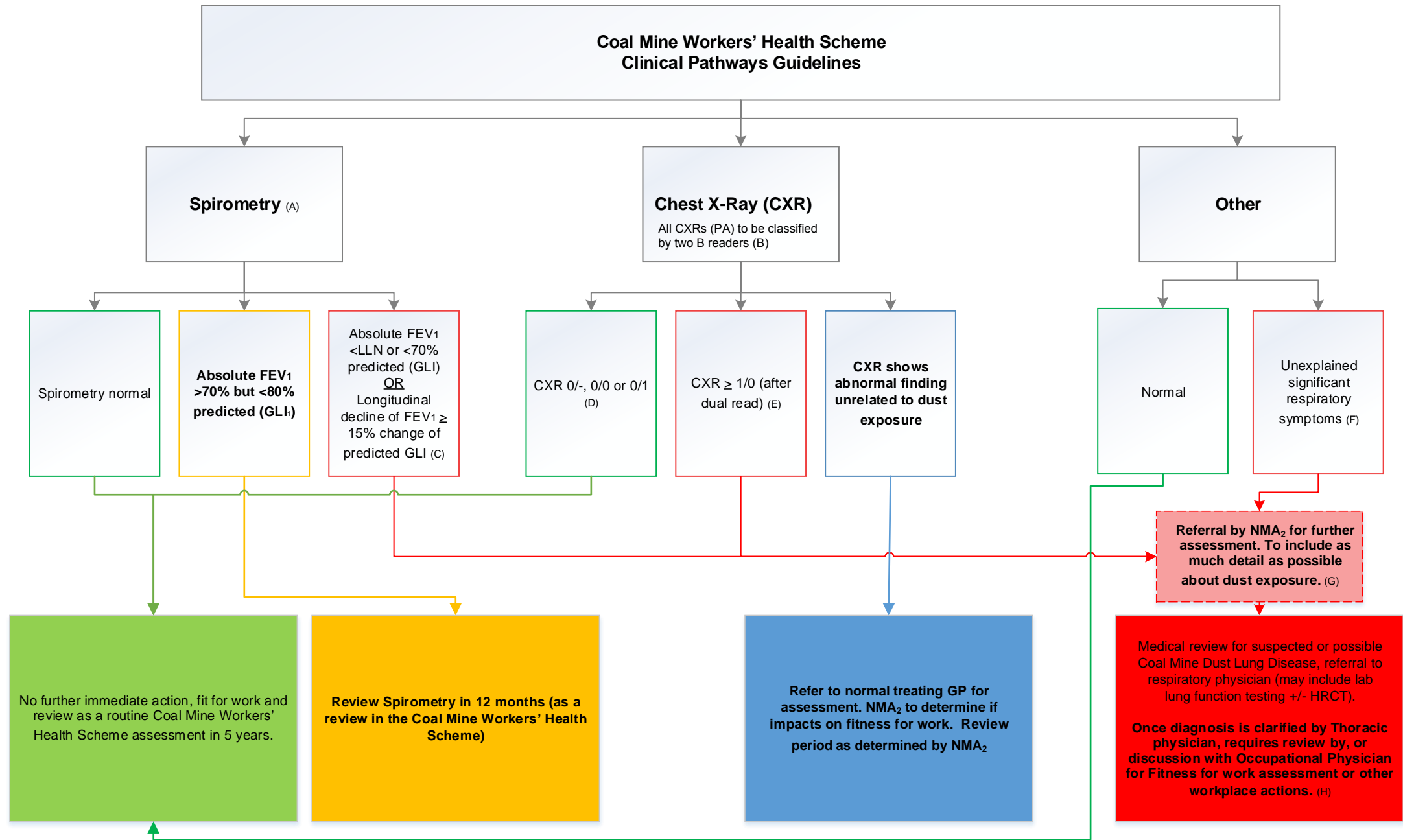
DNRME expects that Nominated Medical Advisers, other doctors and medical providers that are registered with the department to offer health services to Queensland's coal mine workers will implement the Guidelines when assessing coal mine workers, unless there is a valid medical reason for an alternate course of action.

Please note that the Thoracic Society of Australia and New Zealand has developed *Standards for the Delivery of Spirometry for Coal Mine Workers*. While this standard provides a general method for the interpretation of spirometry, the Clinical Pathways Guideline is to be applied by the doctor with responsibility for interpreting the spirometry results and deciding on the referral pathway.

The Guidelines should be used in association with the health assessment requirements of the Coal Mining Safety and Health Regulation 2017, the associated health assessment form and other conditions of registration.

As provided for in the Regulation, if a coal mine worker is not satisfied with a health assessment outcome that reports that they are unable to carry out their tasks at the mine without creating an unacceptable level of risk, they are able to submit to their employer a further health assessment from another doctor of their choice.

The employer will then request that the original Nominated Medical Adviser reviews the further assessment and provides the employer and the worker with a report on their review. If there are conflicting health assessment reports, the worker or the employer can seek DNRME to arrange for an independent review of the conflicting assessments and the review report by a relevant specialist. This review may include another health assessment or medical examination to resolve the conflict in the reports.



1. Global Lung Function Initiative
2. Nominated Medical Advisor

Supporting Documentation for Coal Mine Workers' Health Scheme Clinical Pathway Guidelines

A: High quality spirometry is essential (including quality assurance processes for the equipment and training)

B: All CXRs (PA) are classified by two B-readers, with additional readers available for adjudication. A total of up to 5 readers may be required.

Please Note: The CMDLD Collaborative Group recommends the following transitional arrangements in jurisdictions that do not immediately adopt the use of B-readers: until 31/01/2019, this task may also be performed by registered radiologists whose names appear on the register of clinical radiologists for CWP screening, maintained by the Royal Australian and New Zealand College of Radiologists.

C:

- The "threshold" for FEV₁ and impairment is defined by the comparison of absolute measurements to reference values, or longitudinal studies that show excessive declines in FEV₁. The threshold is met if:
 - The absolute value is less than the Lower Limit of Normal (L.L.N) or less than 70% predicted, from Global Lung function Initiative (GLI) reference values – whichever is lower – assuming that age, height and race are entered correctly.
 - *Please Note: The decision to use <70% FEV₁ as a cut-off was reached because choosing a higher cut-off value (such as <80%) would have resulted in a greater number of false positive results. Such false positives would, for example, have included workers without CWP, but with mild dysfunction due to other respiratory conditions*
 - *Please Note: It is planned that FEV₁ level will be reviewed within 2 years*
- A longitudinal decline of ≥ 15% of reference over any period of time (GLI) Abnormalities are an indicator of 'suspected CWP' and a trigger for referral and medical review (as CXR pathway)
- Abnormal Pre-employment lung function needs an individualised approach
- If COPD is suspected, then a suitable FFW assessment is required (similar to 1/0).
- These guidelines are suitable for assessing former coal mine workers.

D:

- All patients with a 0/0, 0/- or 0/1 CXRs are classified as negative. Results are to be recorded in the patient's file, with no other radiology, including HRCT, required at this stage.
- Patients with a 0/0, 0/- or 0/1 are deemed fit for work and should not be removed from the workplace.

E:

- A 1/0 or greater read is not confirmed until it has been read using the dual reader protocol, with adjudications if needed, in order to obtain a final determination.
 - *Please Note: In the current Queensland CMWHS system of X-ray dual reading, whereby the CXR is read in Australia and also in the USA. An urgent turn-around can be requested on the US read in the event of a potential positive read.*
- A 1/0 or greater final determination is deemed 'suspected CWP' and then triggers referral for medical review

F: If a worker has a negative CXR but reports significant, unexplained respiratory symptoms this should also trigger a medical review.

G:

- The Group recommends the following case **definition of CWP:**
 - When considering CWP a 'significant or substantial' exposure to coal mine dust should be an essential element together with a change in CXR (or other imaging equivalent):
 - Coal mine dust exposure must be considered and the effectiveness of exposure controls
 - A significant or substantial exposure was considered, as a guide, to be at least 10 years in an appropriate exposure group or S.E.G
 - Lesser time periods of exposure may be considered in circumstances of significantly greater exposures.

H:

- Medical review can include:
 - Medical Evaluation by NMA (doctor responsible for health surveillance) and/or occupational physician (OP) and/or respiratory physician.
 - Obtaining information about the worker's occupational dust exposure and any other relevant exposures
 - HRCT may be indicated in many cases, especially low profusion CWP and cases where it is difficult to obtain a high quality image. The HRCT, if performed, should be conducted according to the specified protocol and read by a radiologist from the CWP register.

- Spirometry and advanced lung function testing.
- The diagnosis needs to be established and the worker's fitness for work determined.
- Ongoing surveillance including symptom evaluation by questionnaires, spirometry and CXR at clinically appropriate intervals.
- The NMA (doctor responsible for health surveillance), OP and/or respiratory physician are to consider and assess dust exposures.