From Stone Dust to Specialist Care

Lessons in Occupational Respiratory Medicine at The Alfred

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Alfred Health

WorkSafe VICTORIA

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Objectives

- AORC overview
- Patient journey
- My reflections

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The Patient

- 62M stonemason of Filippino ethnicity with persistent dry cough
- Lived in the Philippines, migrated to Australia in 1988
- Relevant occ history
  - 28 years in stone benchtop industry (SBI)
  - 4 years in construction
- Respirable crystalline silica (RCS) exposure
  - Dry cutting for 13 years
  - No RPE for 13 years
  - Engineering controls variable

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The Patient

- Relevant med history
  - Never smoked/vaped
  - Metabolic syndrome
  - Gout
- No prior RCS health surveillance

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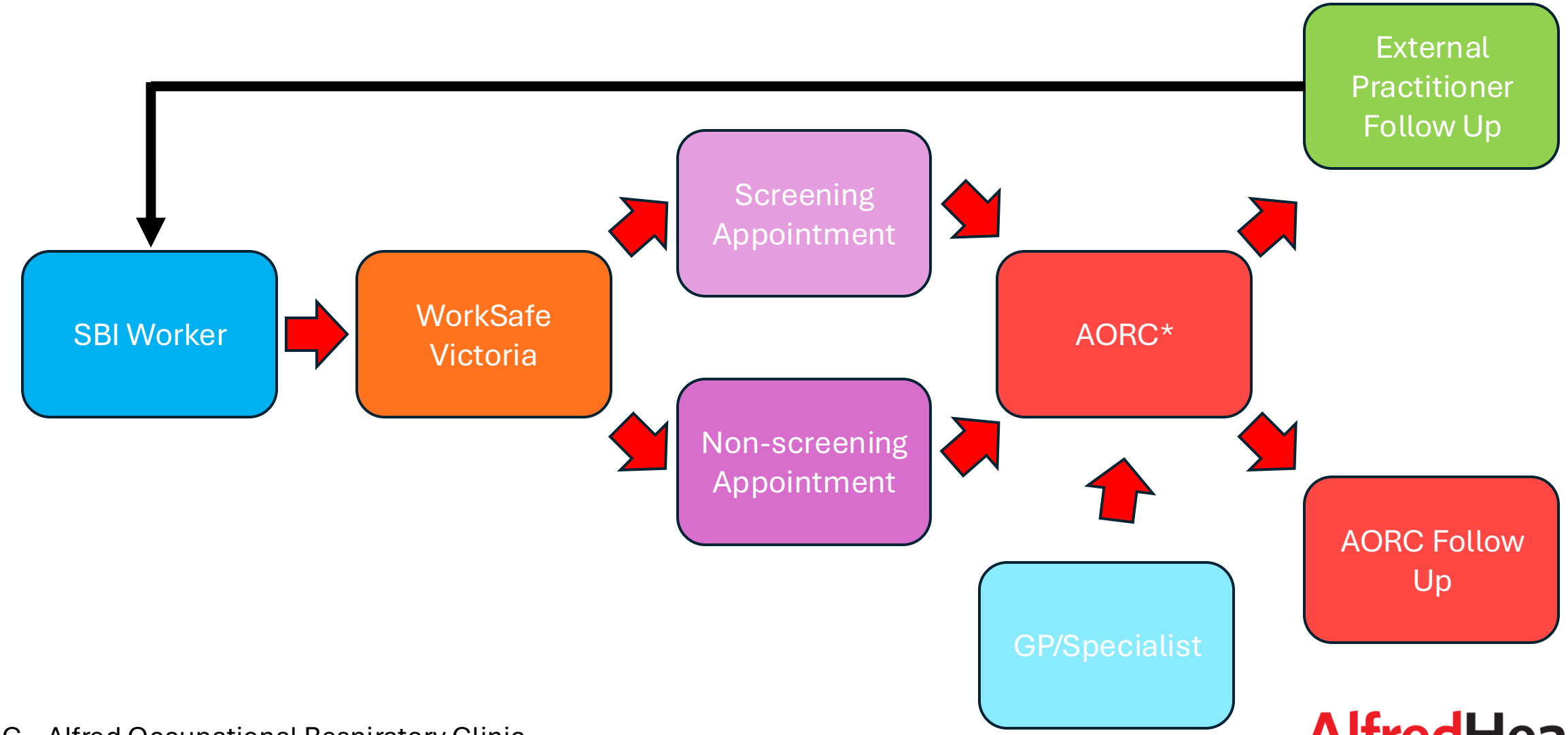
Referral & eligibility for the AORC



*AORC – Alfred Occupational Respiratory Clinic

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At the AORC

Before AORC appointment

- HRCT chest
  - Bilateral upper lobe nodular lesions
- Spirometry
  - Moderate obstruction, normal DLCO

AORC consultation

- Clinical history & examination
  - Persisting dry cough
  - Normal clinical exam
- Review of imaging
  - Previously investigated for a dry cough
- Capacity for modified duties
  - No further RCS exposure

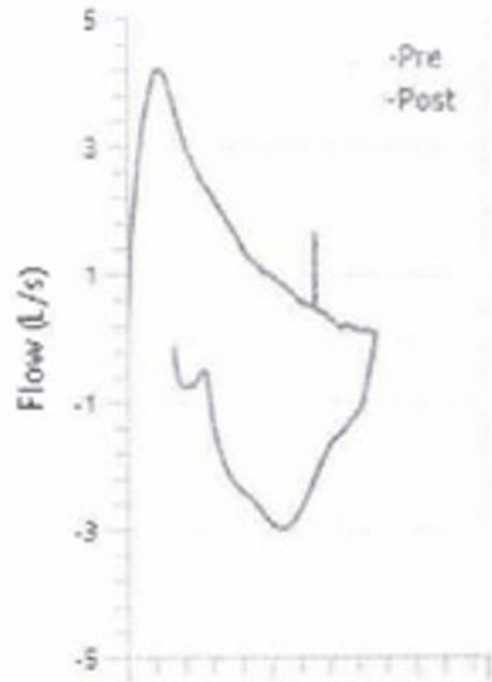
Post clinic discussion

- Ddx
  - Silicosis
  - Sarcoidosis
  - TB
  - Malignancy
- Whole body PET scan
- Discussion at silicosis MDM

Respiratory Function Report

Spirometry	LLN	Pre Baseline	Z-Score	%Pred
FEV1 (L)	1.87	1.32	-2.95	52
FVC (L)	2.43	1.73	-3.26	55
VC (L)	2.43	2.04	-2.55	64
FEV1/(F)VC	0.68 - 0.90	0.65	-2.05	
FEF25-75% (L/s)	1.05	1.05	-1.65	47
PEF (L/s)	0.00	4.19	---	---
FET (s)		5.56		

Transfer Factor	LLN	Pre	Z-Score	%Pred
IV (L)		1.97		
TLCO (ml/mmHg/M)	16.04	22.02	0.14	102
TLCO (Hb)		22.34		104
VA (L)	3.97	3.65	-2.24	74
KCO (TLCO/L)	3.32	6.03	2.24	137
KCO (Hb)		6.12		139
Hb (g/dL)	(04/03/2024)	14.1		



Moderate obstruction – FER 0.65

MDM discussion & recommendations

- Patient case presented by Occupational Respiratory Physician
- MDT
  - Occupational respiratory physicians
  - Interstitial lung disease physicians
  - Thoracic radiologist
  - Anatomical pathologist
- CT and PET imaging reviewed
  - Evidence of silicosis
  - Newer nodular lesions atypical for silicosis
    - Possible sarcoidosis secondary to silica (?silicosarcoidosis)
    - Differentials of malignancy, tuberculosis

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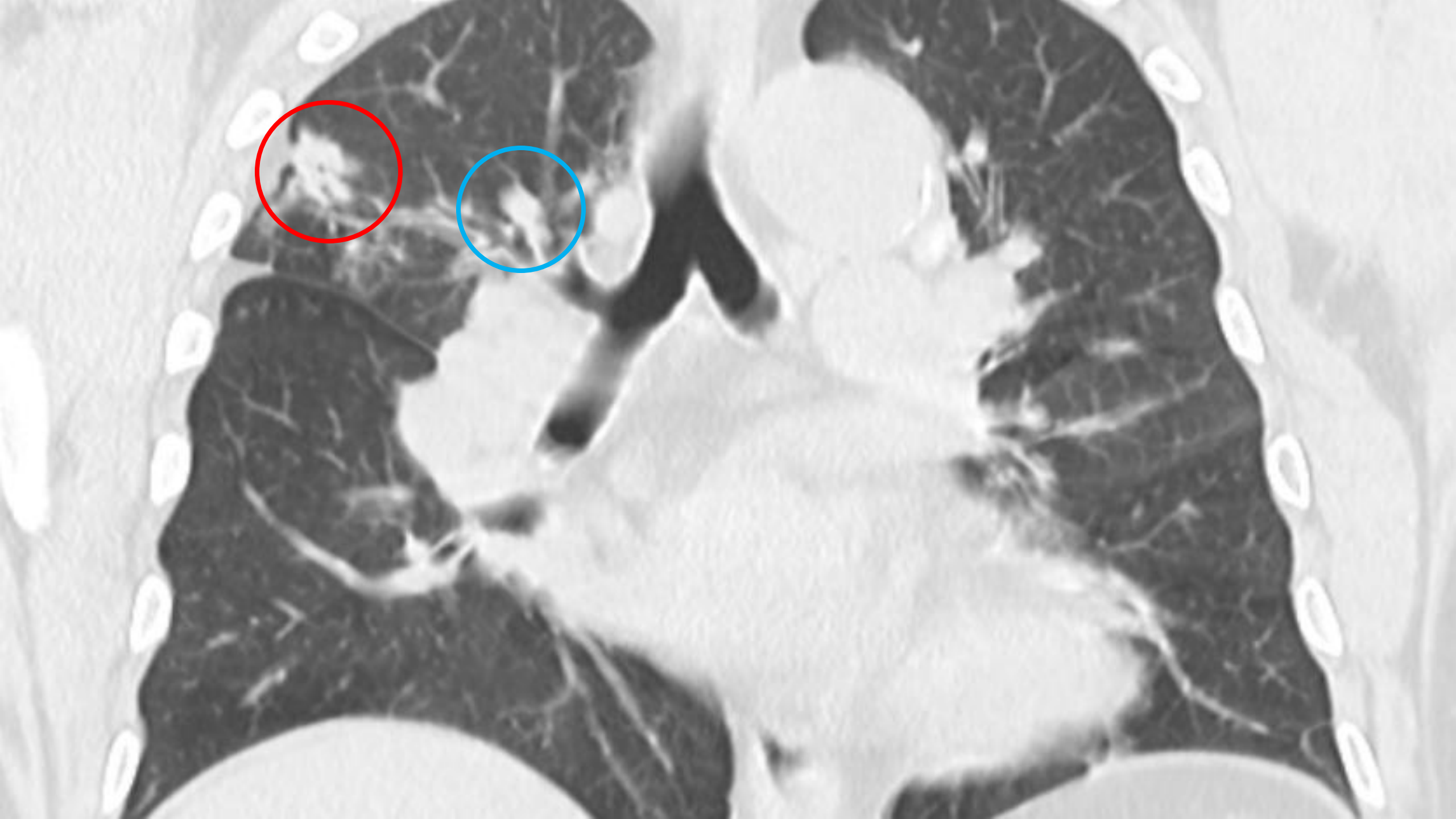

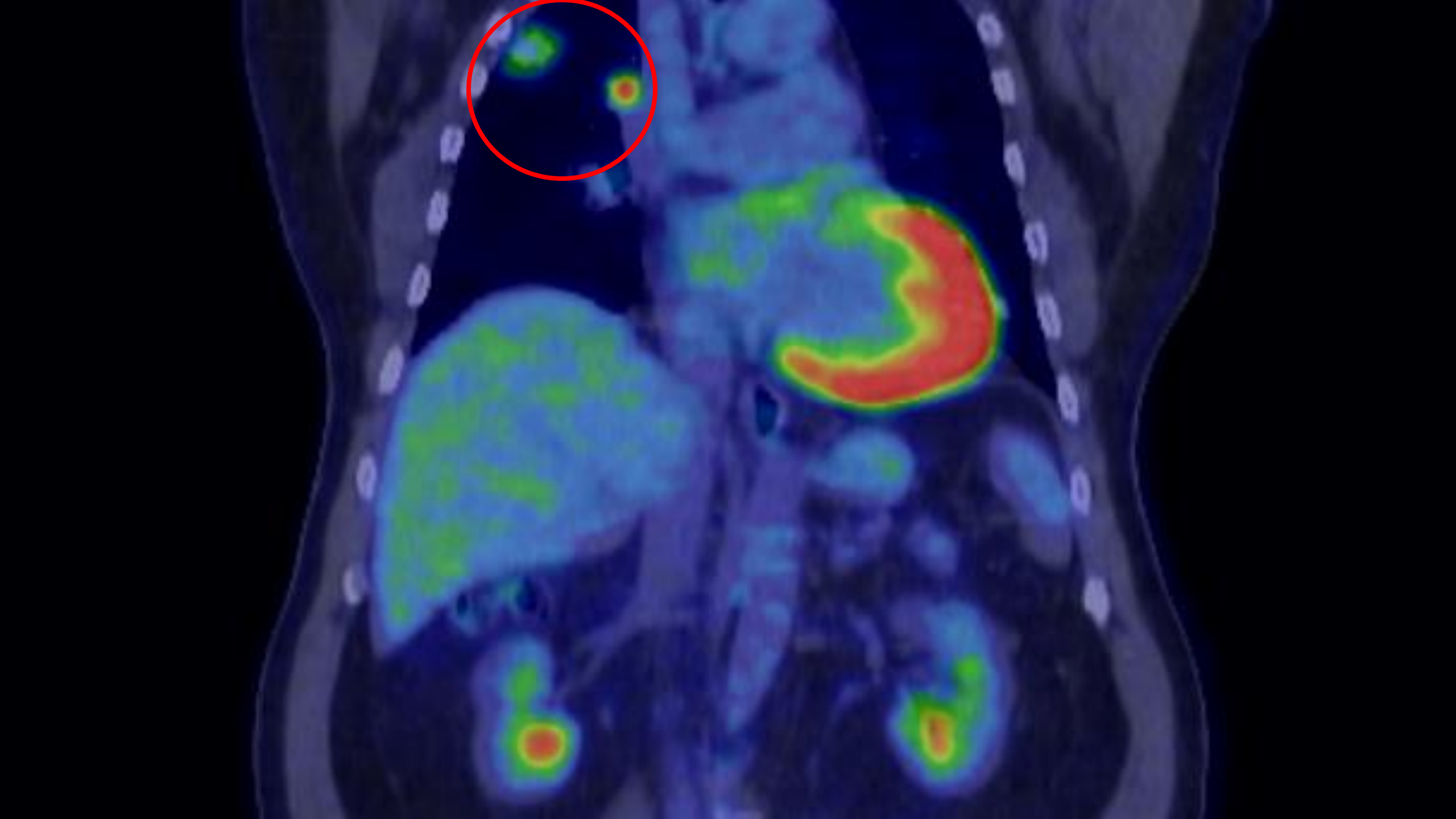

MDM discussion & recommendations

- Tissue diagnosis required
  - Endobronchial ultrasound (EBUS) bronchoscopy
    - Histopathology
  - Bronchoalveolar lavage (BAL)
    - Cytology
    - Cell count
    - AFB culture for TB

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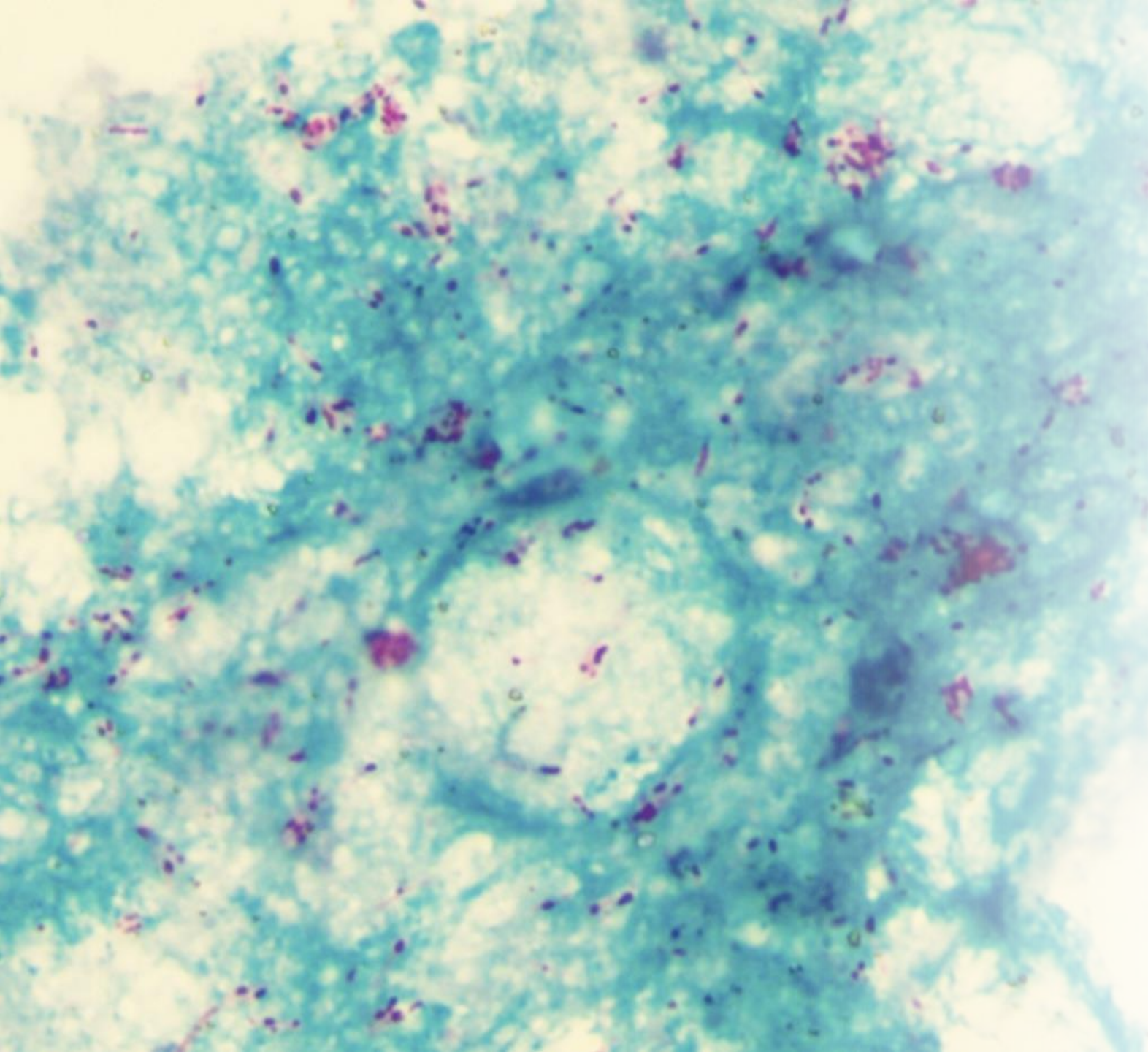

Pathology results

- EBUS bronchoscopy
  - No granulomas
  - No malignancy
  - Dispersed polymorphous population of lymphocytes & histiocytes

- BAL
  - No malignant cells
  - AFB culture positive for *M. tuberculosis*

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MDM discussion & recommendations

- Rediscussed at MDM
- Consensus diagnosis
  - Silicosis, with superimposed pulmonary TB
  - Possible component of sarcoidosis, for further evaluation
- Recommendations
  - Referral to infectious diseases for treatment of TB
  - Consider trial prednisolone to treat sarcoidosis once TB treatment completed

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Follow-up

- Monthly appointments at the Alfred TB Clinic
  - 6 months of anti-TB treatment
- 3-monthly appointments at AORC
  - Spirometry & DLCO

- Most recent appointment 2 months ago
  - HRCT chest – reduction in size of RUL nodule
  - Spirometry – improvement to mild obstructive defect (from moderate)

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Work capacity

- Initially fit for modified duties – no further exposure to RCS
  - Did not work due to RTW barriers
- No work capacity since TB diagnosis
  - Concerns regarding infectivity
- Remains off work
- RTW barriers
  - Adjustment disorder
  - Older age
  - Limited language & computer literacy

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Baker

Purpose of the AORC

- Aim
  - Centralised diagnosis & management of occupational lung disease
- Multidisciplinary occupational respiratory clinic est. 2021
  - Located at The Alfred in Melbourne
  - Partnership between Alfred Health and Worksafe Victoria (WSV)
  - Funded by WSV
- Formed in response to
  - Rising incidence of silicosis & other occupational lung diseases within the stone benchtop industry in VIC
  - Address gaps in existing health surveillance systems

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Reflections on my AORC experience

- Unique learning environment within a hospital
  - Most accredited AFOEM sites are in the community
  - Collaborative, collegiate MDT culture
    - Easy and direct access to other specialists
    - Easy access to interpreters
  - Ability to view imaging rather than just reports
- Diverse clinical exposure
    - Beyond the initial health surveillance process

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Reflections on my AORC experience

- Research opportunities with Monash University
  - Close proximity to Monash Centre of Occupational and Environmental Health (MonCOEH)

MONASH
Centre for Occupational and Environmental Health

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Useful resources

- Alfred Health AORC website (https://www.alfredhealth.org.au/services/alfred-health-occupational-respiratory-clinic)
- WorkSafe Victoria AORC referral criteria https://www.worksafe.vic.gov.au/criteria-referral-alfred-occupational-respiratory-clinic
- Monash Centre for Occupational & Environmental Health https://www.monash.edu/medicine/sphpm/coeh
- The Alfred Foundation news https://www.alfredhealth.org.au/the-alfred-foundation/news/new-hope-for-silicosis-sufferers

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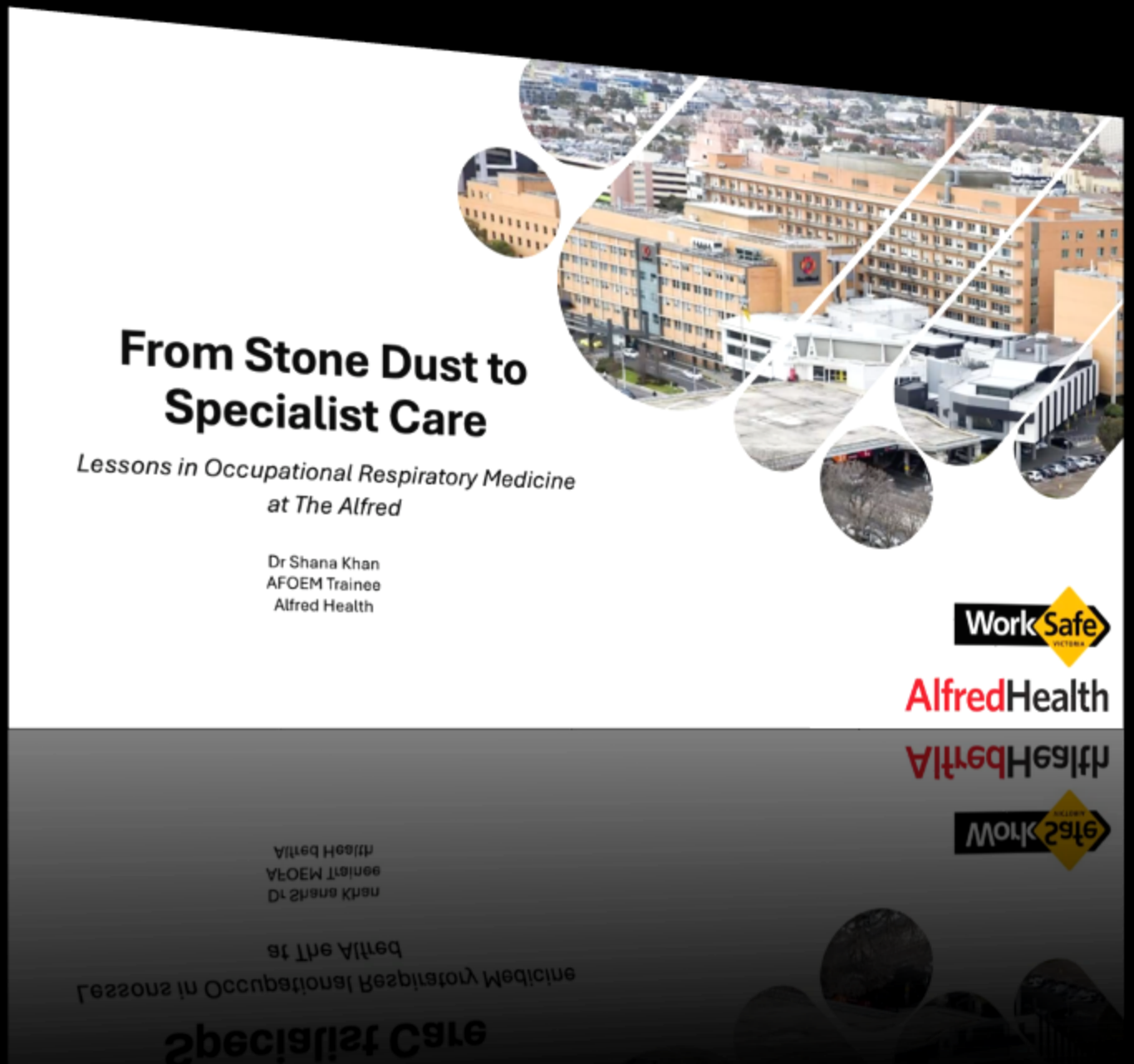

THANK YOU

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SBI businesses