What Good Looks Like:
Recognition of ILDs & Nonpharmacological Management

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Interstitial lung diseases (ILDs) are a diverse group of diffuse lung diseases[1]

Many ILDs present with similar symptoms, physiology, and radiologic findings.[2]

> "When you're able to identify something like interstitial lung disease as early as we can, especially in patients that have connective tissue disease, it affords you the opportunity to have a significant impact on someone's life"
> – Cedric Jamie Rutland

Any of the findings below should be concerning for ILD diagnosis[3]

History
- Exertional dyspnea
- Nonproductive cough
- Family history of ILD

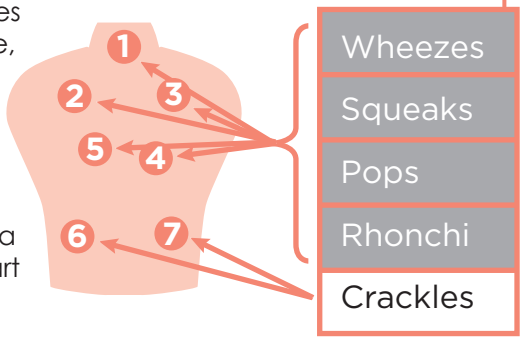
Physical and Lab Exam
- Exertional desaturation
- Crackles
- Abnormal chest imaging
- Spirometry (low FVC) or low DL_{CO}

> "We combine high resolution CT scans with our lung function test and the history we obtain to help us hone in on a diagnosis"
> – Chase Hall

> "We've been out trying to say if people have coughs or are short of breath and they have any findings: check spirometry, get a chest radiograph, look for exertional desaturation, actually listen to the lungs, specifically at the base, to try and see if the patient could potentially have an underlying interstitial lung disease"
> – Amy Olson

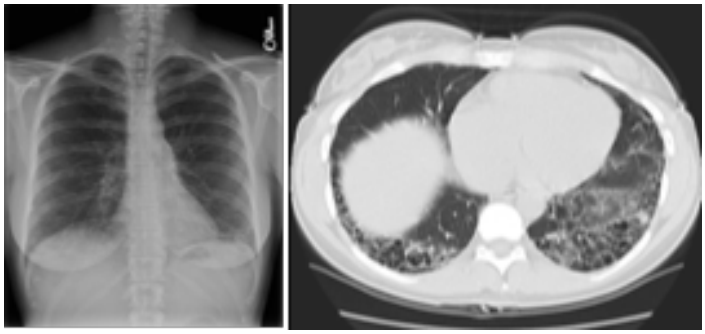
Specific Sounds and Timing Can Help Diagnose ILDs

- Many ILDs exhibit fine, bibasilar crackles[4,5]
- The timing and location of the crackles can vary, which further distinguishes the specific cause, such as COPD, pneumonia, asbestosis, chronic bronchitis, and pulmonary edema secondary to heart failure[4]



HRCT is More Sensitive Than Chest X-ray in Diagnosing Fibrosis[6]

HRCT: high-resolution computed tomography



Case study used with permission from the American Thoracic Society

43-year-old female with 3 weeks of sinus congestion and clear sputum production after running. X-ray showing some lower lung scarring (fibrosis). HRCT scan reveals extensive lower-lung abnormalities, including honeycombing cysts.

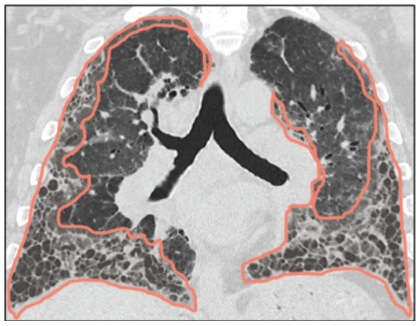
Diagnostic Criteria for Some ILD Groups

IPF

1. Exclusion of other known causes of ILD[7,8]
2. The presence of a usual interstitial pneumonia (UIP) pattern on HRCT[7,8]

OR

3. Specific combinations of HRCT patterns and surgical lung biopsy patterns[7,8]



Honeycombing and reticulation

Autoimmune ILD

Crackle on auscultation[9]

Positive serology[10]

Diffuse lung involvement on chest imaging[10]

Non-specific interstitial pneumonia (NSIP) pattern or UIP on HRCT[11]

ILD on HRCT

Yes	No
obtain further testing: pulmonary function tests and six minute walk test, self-reported dyspnea assessment	Monitor PFTs regularly

Unclassifiable

1. Discrepant or overlapping histopathological findings[12,13]
2. Discrepant features between clinical, radiological, and pathological findings[12,13]
3. Significant overlapping clinical or radiological features that preclude diagnosis[12,13]

Non-pharmacological Management of ILDs

Support Network

"Obviously, there are multiple physicians involved in the evaluation, the diagnosis, and treatment recommendations. And then beyond that on the longitudinal care, the respiratory therapists, the support groups, the family members that are extremely important to help get these patients through this longitudinally" – Chase Hall

"The biggest thing is trying to get them (the patients) plugged into some network of patients who are going through the same thing. They have other people that they can talk to about these things and they get strategies from other people about how to manage their symptoms and how to maneuver through life" – Mark Hamblin

Pulmonary Rehab

"Pulmonary rehabilitation is very important in a number of these patients, especially those likely to undergo lung transplantation. In addition, there are so many of our patients that become deconditioned with their underlying lung disease" – Amy Olson

"Pulmonary rehab is one of the few things that we can do that can recondition those muscles to use oxygen more efficiently. Even if we can't change anything about their lung disease, sometimes patients go through pulmonary rehab and they can double what they can do after completing 12 to 16 weeks of rehab" – Mark Hamblin

"It's important to know that pulmonary rehab is almost like exercise or it is exercise for the lungs" – Cedric Jamie Rutland

To learn more, please listen to our 3-part podcast on www.insightsinild.com

References

1. American Thoracic Society. *Am J Respir Crit Care Med*. 2002;165:277-304. **2.** Raghu G et al. *Clin Chest Med*. 2004;25(3):409-419. **3.** Kalchiem-Dekel O et al. *J Clin Med*. 2018 ;7(12):476. **4.** Sarkar M et al. *Ann Thorac Med*. 2015;10(3):158-168. **5.** Cottin V et al. *Eur Respir J*. 2012;40(3):519-521. **6.** Rentia M et al. *IAIM*. 2015;2(6):69-76. **7.** Raghu G et al. *Am J Respir Crit Care Med*. 2018 ;198(5) :e44-e68. **8.** Lynch DA et al. *Lancet Respir Med*. 2018;6(2):138-153. **9.** Sellarés J et al. *Medicine*. 2016;95(5):e2573. **10.** Gutsche M et al. *Curr Respir Care Rep*. 2012;1:224-232. **11.** Wallace B et al. *Curr Opin Rheumatol*. 2016;28(3):236-245. **12.** Ryerson CJ et al. *Am J Respir Crit Care Med*. 2017;196(10):1249-1254. **13.** Ryerson CJ et al. *Eur Respir J*. 2013;42(3):750-757.

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