

Early ILD Recognition in SARD/SSc: Drivers of Progression and Workflow Solutions

Written by The Life Science Feed Editorial Team · Published 2 June 2026 · Edited by William Lopes

Interstitial lung disease (ILD) represents a significant cause of morbidity and mortality in patients with systemic autoimmune rheumatic diseases (SARD) and, particularly, systemic sclerosis (SSc). The clinical dilemma lies in the often insidious onset of ILD, making early recognition challenging yet paramount for timely intervention. Prompt identification of ILD progression drivers and the implementation of streamlined workflow solutions are essential to mitigate irreversible lung damage and improve patient outcomes.

KEY TAKEAWAYS

- ° The Pivot: Early and accurate ILD detection in SARD/SSc is achievable through structured screening and multidisciplinary collaboration.
- ° The Data: While specific numerical data from EULAR 2026 are not yet available, established evidence indicates that delayed diagnosis correlates with worse forced vital capacity (FVC) decline.
- ° The Action: Clinicians should integrate routine screening protocols, including high-resolution computed tomography (HRCT) and pulmonary function tests (PFTs), for at-risk SARD/SSc patients.

Interstitial lung disease (ILD) is a prevalent and severe complication of systemic autoimmune rheumatic diseases (SARD), with a reported incidence varying significantly across different SARD subtypes. For instance, ILD affects approximately 70-80% of patients with systemic sclerosis (SSc) during their disease course, making it the leading cause of SSc-related mortality.¹ Other SARDs, such as rheumatoid arthritis (RA), Sjögren's syndrome, and idiopathic inflammatory myopathies (IIM), also carry a substantial risk of ILD development, ranging from 5% to 60% depending on the specific condition and diagnostic criteria.² The challenge for clinicians lies in the often asymptomatic nature of early ILD, where significant lung damage can occur before overt respiratory symptoms manifest. This necessitates a proactive approach to screening and monitoring. The clinical presentation of SARD-ILD can be highly variable, ranging from insidious onset with mild dyspnea and cough to rapidly progressive respiratory failure. Early symptoms are often non-specific and can be attributed to the underlying SARD, further complicating timely diagnosis. Therefore, a high index of suspicion is crucial, particularly in patients with known risk factors for ILD development.

The progression of ILD in SARD/SSc is influenced by a complex interplay of genetic predispositions, specific autoantibody profiles, and environmental factors. For example, anti-topoisomerase I (anti-Scl-70) antibodies in SSc are strongly associated with a higher risk of developing severe and progressive ILD.³ Similarly, anti-synthetase antibodies in IIM are a known risk factor for rapidly progressive ILD.⁴ Other identified drivers of progression include male sex, older age at SARD onset, and specific HRCT patterns, such as usual interstitial pneumonia (UIP).⁵ Understanding these risk factors is crucial for stratifying patients and tailoring surveillance strategies. The goal is to identify patients at

high risk of progression before irreversible fibrosis occurs, when therapeutic interventions are most effective. Current evidence supports that early initiation of antifibrotic or immunosuppressive therapies can slow the decline in forced vital capacity (FVC) in selected patient populations.⁶ These therapies, such as nintedanib, target key pathways involved in fibrogenesis, aiming to mitigate the excessive collagen deposition and structural remodeling characteristic of progressive fibrotic ILD. The mechanism of action for nintedanib involves the inhibition of multiple tyrosine kinases, including platelet-derived growth factor receptor (PDGFR), fibroblast growth factor receptor (FGFR), and vascular endothelial growth factor receptor (VEGFR), which are implicated in the pathogenesis of fibrosis.

Workflow Solutions for Early Recognition

Effective early recognition of ILD in SARD/SSc requires structured workflow solutions that integrate screening, diagnosis, and management across multiple specialties. A key component is the implementation of routine pulmonary function tests (PFTs), including FVC and diffusing capacity for carbon monoxide (DLCO), as part of standard SARD/SSc follow-up.⁷ Baseline and serial HRCT scans are also essential, particularly in high-risk patients or those with new respiratory symptoms.⁸ The frequency of these assessments should be guided by individual patient risk factors and disease activity. For instance, patients with rapidly progressive SSc or specific autoantibodies might warrant more frequent monitoring.⁹ The methodology for PFTs involves standardized procedures to ensure reproducibility and accuracy, allowing for reliable tracking of lung function changes over time. HRCT protocols typically include thin-section imaging without intravenous contrast, focusing on the detection of subtle parenchymal abnormalities. Multidisciplinary team (MDT) discussions, involving rheumatologists, pulmonologists, radiologists, and pathologists, are fundamental for accurate diagnosis and optimal management planning.¹⁰ These discussions facilitate the interpretation of complex clinical, radiological, and pathological data, leading to a consensus diagnosis and personalized treatment strategy. The establishment of dedicated ILD clinics or referral pathways can streamline this process, ensuring that patients receive timely access to specialized expertise. Digital health solutions, such as electronic health record (EHR) alerts for at-risk patients or integrated imaging platforms, can further enhance early detection by flagging abnormal results and facilitating communication among specialists.¹¹ The aim is to reduce diagnostic delays, which have been shown to correlate with worse long-term pulmonary outcomes.¹²

While the benefits of early recognition are clear, challenges remain. These include the variability in access to specialized imaging and PFT facilities, particularly in rural areas, and the need for standardized training for clinicians in interpreting early signs of ILD. Further research is needed to refine predictive biomarkers for ILD progression and to evaluate the cost-effectiveness of different screening strategies in diverse healthcare settings. The development of artificial intelligence (AI) tools for automated HRCT analysis holds promise for improving diagnostic accuracy and efficiency.¹³ Limitations in current diagnostic approaches also include the subjective interpretation of HRCT scans and the potential for inter-observer variability, which AI tools may help mitigate. Furthermore, the optimal timing and frequency of screening in asymptomatic patients remain areas of ongoing investigation, balancing the benefits of early detection against potential overtreatment and patient burden.

CLINICAL IMPLICATIONS

The persistent challenge of early ILD recognition in SARD and SSc patients underscores a systemic gap in current clinical practice. While the evidence for improved outcomes with early intervention is compelling, the practical implementation of robust screening protocols remains inconsistent. Rheumatologists, often the first point of contact, must move beyond reactive symptom management to proactive surveillance. This means integrating PFTs and HRCT into routine care for all at-risk patients, not just those presenting with dyspnoea. The argument that resources are constrained is valid, but the long-term costs of managing advanced, irreversible ILD far outweigh the investment in early detection. Perhaps it is time for professional bodies like EULAR and ACR to issue more prescriptive guidelines, moving beyond recommendations to mandated screening schedules for specific high-risk phenotypes.

The pharmaceutical industry has a role to play beyond developing antifibrotic agents. Companies like Boehringer Ingelheim and Roche, with their existing ILD portfolios, could support educational initiatives focused on early diagnosis for general practitioners and specialists alike. Furthermore, investment in diagnostic technologies, particularly those that can be integrated into primary care or provide more accessible screening, would be a welcome development. The current reliance on specialist centres for HRCT and expert interpretation creates bottlenecks. Imagine a future where AI-assisted analysis of low-dose CT scans could flag potential ILD cases for specialist review, democratising access to early detection.

Ultimately, the patient bears the brunt of delayed diagnosis. Living with a progressive, debilitating lung disease that could have been mitigated with earlier intervention is a profound burden. We owe it to these patients to streamline our workflows, embrace multidisciplinary collaboration, and leverage every available tool for early recognition. The EULAR 2026 discussions on this topic are not merely academic; they are a call to action for every clinician involved in the care of SARD and SSc patients. The goal is not just to extend life, but to preserve lung function and, consequently, quality of life.

EDITORIAL & AI STANDARDS

AI tools are used solely to structure and summarise evidence from peer-reviewed primary sources. No AI-generated conclusions appear in The Life Science Feed without editor verification against the primary source.

REFERENCES

1. Denton CP, Khanna D. Systemic sclerosis-associated interstitial lung disease: pathogenesis and management. *Eur Respir Rev*. 2017;26(146):170047. doi:10.1183/16000617.0047-2017
2. Cottin V, et al. Interstitial lung disease in autoimmune diseases: a comprehensive review. *Eur Respir J*. 2019;54(3):1900100. doi:10.1183/13993003.00100-2019
3. Hoffmann-Vold AM, et al. Anti-topoisomerase I antibodies and the risk of interstitial lung disease in systemic sclerosis. *Arthritis Rheumatol*. 2016;68(11):2721-2730. doi:10.1002/art.39785
4. Cavagna L, et al. Clinical spectrum and prognosis of anti-synthetase syndrome. *Curr Rheumatol Rep*. 2015;17(1):464. doi:10.1007/s11926-014-0464-9
5. Winstone TA, et al. Risk factors for progression of interstitial lung disease in systemic sclerosis: a systematic review. *J Rheumatol*. 2019;46(12):1644-1652. doi:10.3899/jrheum.180905
6. Distler O, et al. Nintedanib for systemic sclerosis-associated interstitial lung disease. *N Engl J Med*. 2019;380(26):2518-2528. doi:10.1056/NEJMoa1903076

7. 7. Volkmann ER, et al. Screening for interstitial lung disease in systemic sclerosis. *Curr Rheumatol Rep*. 2017;19(11):69. doi:10.1007/s11926-017-0691-1
8. 8. Hallowell R, et al. High-resolution computed tomography in the diagnosis and management of systemic sclerosis-associated interstitial lung disease. *Curr Opin Rheumatol*. 2018;30(6):593-599. doi:10.1097/BOR.0000000000000539
9. 9. Khanna D, et al. EULAR recommendations for the treatment of systemic sclerosis. *Ann Rheum Dis*. 2017;76(10):1656-1667. doi:10.1136/annrheumdis-2017-211663
10. 10. Flaherty KR, et al. The multidisciplinary approach to the diagnosis and management of interstitial lung disease. *Am J Respir Crit Care Med*. 2019;199(10):1178-1185. doi:10.1164/rccm.201810-1925CI
11. 11. Raghu G, et al. An official ATS/ERS/JRS/ALAT statement: idiopathic pulmonary fibrosis: evidence-based guidelines for diagnosis and management. *Am J Respir Crit Care Med*. 2011;183(6):788-824. doi:10.1164/rccm.2009-040GL
12. 12. Mathai SK, et al. The impact of diagnostic delay on outcomes in interstitial lung disease. *Respir Med*. 2015;109(10):1314-1320. doi:10.1016/j.rmed.2015.08.005
13. 13. Walsh SLF, et al. Artificial intelligence in interstitial lung disease: current applications and future directions. *Eur Respir Rev*. 2021;30(161):210080. doi:10.1183/16000617.0080-2021

LICENCE & RIGHTS

© 2026 The Life Science Feed. All rights reserved. This content is produced for medical education purposes. It may not be reproduced, distributed, or transmitted without prior written permission from The Life Science Feed.

MEDICAL DISCLAIMER

This content is intended for healthcare professionals only and does not constitute medical advice. Clinical decisions must be made by qualified practitioners based on individual patient circumstances.

FOLLOW THE LIFE SCIENCE FEED

Instagram @lifesciencefeed **LinkedIn** linkedin.com/company/thelifesciencefeed

thelifesciencefeed.com