**Supplementary File 1: Details on search strategy.**

1. Description of information sources

1.1. MEDLINE (PubMed): search done on the 07th of July, 2022. Last update performed on the 10t of August 2022.

2. Full electronic search strategy

2.1. MEDLINE (PubMed): ("IPF cryobiopsy", "Idiopathic pulmonary fibrosis cryobiopsy", "ILD Cryobiopsy"). No limitation on publication date or language limitations were added. Duplicates were manually removed when articles of all databases were put together to form a list. All study designs were included if the topic was relevant for this article.

**Supplementary File 2: Quality assessment for Observational Cohort and Cross-Sectional studies.**

Question 1 (Q1): Was the research question or objective in this paper clearly stated?
Question 2 (Q2): Was the study population clearly specified and defined?
Question 3 (Q3): Was the participation rate of eligible persons at least 50%?
Question 4 (Q4): Were all the subjects selected or recruited from the same or similar populations (including the same time period)? Were inclusion and exclusion criteria for being in the study prespecified and applied uniformly to all participants?
Question 5 (Q5): Was a sample size justification, power description, or variance and effect estimates provided?
Question 6 (Q6): For the analyses in this paper, were the exposure(s) of interest (i.e. presence of PAH) measured prior to the outcome(s) being measured?
Question 7 (Q7): Was the timeframe sufficient so that one could reasonably expect to see an association between exposure and outcome if it existed?
Question 8 (Q8): For exposures that can vary in amount or level, did the study examine different levels of the exposure as related to the outcome (e.g., categories of exposure, or exposure measured as continuous variable)?
Question 9 (Q9): Were the exposure measures (independent variables) clearly defined, valid, reliable, and implemented consistently across all study participants?
Question 10 (Q10): Was the exposure(s) assessed more than once over time?
Question 11 (Q11): Were the outcome measures (dependent variables) clearly defined, valid, reliable, and implemented consistently across all study participants?
Question 12 (Q12): Were the outcome assessors blinded to the exposure status of participants?
Question 13 (Q13): Was loss to follow-up after baseline 20% or less?
Question 14 (Q14): Were key potential confounding variables measured and adjusted statistically for their impact on the relationship between exposure(s) and outcome(s)?

| Article | Q1 | Q2 | Q3 | Q4 | Q5 | Q6 | Q7 | Q8 | Q9 | Q10 | Q11 | Q12 | Q13 | Q14 | QR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Han Q et al. (2021) | Y | Y | Y | Y | Y | Y | Y | Y | Y | NA | Y | Y | Y | Y | GOOD |
| O'Mahony AM et al. (2021) | Y | Y | Y | Y | Y | Y | Y | Y | Y | NA | Y | Y | Y | Y | GOOD |
| Ravaglia C et al. (2019) | Y | Y | Y | Y | Y | Y | Y | Y | Y | NA | Y | Y | Y | Y | GOOD |
| Tomassetti S et al. (2016) | Y | Y | Y | Y | Y | Y | Y | Y | Y | NA | Y | Y | Y | Y | GOOD |

| | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Koslow M et al. (2020) | Y | Y | Y | Y | Y | Y | Y | Y | Y | NA | Y | Y | Y | Y | GOOD |
| Zaizen Y et al. (2019) | Y | Y | Y | Y | Y | Y | Y | Y | Y | NA | Y | Y | Y | Y | GOOD |
| Ronan N et al (2018) | Y | Y | Y | Y | Y | Y | Y | Y | Y | NA | Y | Y | Y | Y | GOOD |
| Tomassetti S et al. (2020) | Y | Y | Y | Y | Y | Y | Y | Y | Y | NA | Y | Y | Y | Y | GOOD |
| Romagnoli M et al. (2019) | Y | Y | Y | Y | Y | Y | Y | Y | Y | NA | Y | Y | Y | Y | GOOD |
| Pajares V et al. (2020) | Y | Y | Y | Y | Y | Y | Y | Y | Y | NA | Y | Y | Y | Y | GOOD |
| Hetzel J et al. (2020) | Y | Y | Y | Y | Y | Y | Y | Y | Y | NA | Y | Y | Y | Y | GOOD |

**Supplementary file 3: Quality assessment for Controlled Intervention Studies.**

Question 1 (Q1): Was the study described as randomized, a randomized trial, a randomized clinical trial, or an RCT?
Question 2 (Q2): Was the method of randomization adequate (i.e., use of randomly generated assignment)?
Question 3 (Q3): Was the treatment allocation concealed (so that assignments could not be predicted)?
Question 4 (Q4): Were study participants and providers blinded to treatment group assignment?
Question 5 (Q5): Were the people assessing the outcomes blinded to the participants' group assignments?
Question 6 (Q6): Were the groups similar at baseline on important characteristics that could affect outcomes (e.g., demographics, risk factors, co-morbid conditions)?
Question 7 (Q7): Was the overall drop-out rate from the study at endpoint 20% or lower of the number allocated to treatment?
Question 8 (Q8): Was the differential drop-out rate (between treatment groups) at endpoint 15 percentage points or lower?
Question 9 (Q9): Was there high adherence to the intervention protocols for each treatment group?
Question 10 (Q10): Were other interventions avoided or similar in the groups (e.g., similar background treatments)?
Question 11 (Q11): Were outcomes assessed using valid and reliable measures, implemented consistently across all study participants?
Question 12 (Q12): Did the authors report that the sample size was sufficiently large to be able to detect a difference in the main outcome between groups with at least 80% power?
Question 13 (Q13): Were outcomes reported or subgroups analyzed prespecified (i.e., identified before analyses were conducted)?
Question 14 (Q14): Were all randomized participants analyzed in the group to which they were originally assigned, i.e., did they use an intention-to-treat analysis?

| Article | Q1 | Q2 | Q3 | Q4 | Q5 | Q6 | Q7 | Q8 | Q9 | Q10 | Q11 | Q12 | Q13 | Q14 | QR |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Cooper WA et al. (2021) | Y | Y | Y | NA | Y | Y | Y | Y | Y | Y | Y | NR | Y | Y | GOOD |
| Pajares V et al. (2020) | Y | Y | Y | NA | N | Y | Y | Y | Y | Y | Y | Y | Y | Y | FAIR |

**Supplementary file 4: Quality assessment for Systematic Reviews and Meta-Analysis.**

Question 1 (Q1): Is the review based on a focused question that is adequately formulated and described?
Question 2 (Q2): Were eligibility criteria for included and excluded studies predefined and specified?
Question 3 (Q3): Did the literature search strategy use a comprehensive, systematic approach?
Question 4 (Q4): Were titles, abstracts, and full-text articles dually and independently reviewed for inclusion and exclusion to minimize bias?
Question 5 (Q5): Was the quality of each included study rated independently by two or more reviewers using a standard method to appraise its internal validity?
Question 6 (Q6): Were the included studies listed along with important characteristics and results of each study?
Question 7 (Q7): Was publication bias assessed?
Question 8 (Q8): Was heterogeneity assessed? (This question applies only to meta-analyses.)

| Article | Q1 | Q2 | Q3 | Q4 | Q5 | Q6 | Q7 | Q8 | QR |
|---|---|---|---|---|---|---|---|---|---|
| Castillo D et al. (2020) | Y | Y | Y | NR | NR | Y | Y | NA | GOOD |
| Montufar F et al. (2018) | Y | Y | NA | NR | NR | Y | Y | NA | FAIR |
| Troy LK et al. (2020) | Y | Y | NA | NR | NR | Y | Y | NA | FAIR |
| Lynch DA et al. (2018) | Y | Y | Y | Y | Y | Y | Y | NA | GOOD |

**Supplementary file 5: Checklist for the Quality Assessment of Guidelines (AGREE II)**

| **Item** | Raghu G et al. (2022) | Behr J et al. (2021) |
|---|---|---|
| **Domain 1: Scope and Purpose** | | |
| 1. The overall objective(s) of the guideline is (are) specifically described. | Y | Y |

| | | |
|---|---|---|
| 2. The health question(s) covered by the guideline is (are) specifically described. | Y | Y |
| 3. The population (patients, public, etc.) to whom the guideline is meant to apply is specifically described | Y | Y |
| **Domain 2: Stakeholder Involvement** | | |
| 4. The guideline development group includes individuals from all relevant professional groups. | Y | Y |
| 5. The views and preferences of the target population (patients, public, etc.) have been sought. | Y | Y |
| 6. The target users of the guideline are clearly defined. | Y | Y |
| **Domain 3: Rigour of Development** | | |
| 7. Systematic methods were used to search for evidence. | Y | Y |
| 8. The criteria for selecting the evidence are clearly described. | Y | Y |
| 9. The strengths and limitations of the body of evidence are clearly described. | Y | Y |
| 10. The methods for formulating the recommendations are clearly described. | Y | Y |
| 11. The health benefits, side effects, and risks have been considered in formulating the recommendations. | Y | Y |
| 12. There is an explicit link between the recommendations and the supporting evidence. | Y | Y |
| 13. The guideline has been externally reviewed by experts prior to its publication. | Y | Y |
| 14. A procedure for updating the guideline is provided. | Y | Y |
| **Domain 4: Clarity of Presentation** | | |
| 15. The recommendations are specific and unambiguous | Y | Y |
| 16. The different options for management of the condition or health issue are clearly presented. | Y | Y |
| 17. Key recommendations are easily identifiable. | Y | Y |
| **Domain 5: Applicability** | | |
| 18. The guideline describes facilitators and barriers to its application. | Y | Y |
| 19. The guideline provides advice and/or tools on the recommendations can be put into practice. | Y | Y |
| 20. The potential source implications of applying the recommendations have been considered. | Y | Y |
| 21. The guideline presents monitoring and/or auditing criteria. | Y | Y |
| **Domain 6: Editorial Independence** | | |
| 22. The views of the funding body have not influenced the content of the guideline. | Y | Y |
| 23. Competing interests of guideline development group members have been recorded and addressed | Y | Y |

| | | |
|---|---|---|
| Rate the overall quality of this guideline | GOOD | GOOD |
| I would recommend this guideline for use (Yes; Yes, with modifications; No) | YES | YES |