

**Table 11: Clinical evidence profile: Monitoring technique 4. Chest CT scan for prognosis of pulmonary exacerbations and FEV<sub>1</sub>% predicted at 10 years**

| Prognostic factors  | No of studies    | Design       | Setting              | No of patients | Result (adjRR, MD)                 | Quality                       | Notes   | Importance |
|---|------------------|--------------|----------------------|----------------|------------------------------------|-------------------------------|---|------------|
| <b>Pulmonary exacerbations (defined as hospitalizations treated with IV AB) (Follow-up: 10 years; Better indicated by lower values)</b> |                  |              |                      |                |                                    |                               |   |            |
| Brody chest CT score, 1-point increase  | 1 (Sanders 2015) | Cohort study | CF centres in Europe | 60             | adjRR: 1.39 (95% CI: 1.15 to 1.67) | ⊕⊕⊕⊖<br>MODERATE <sup>1</sup> | Multiple Poisson model adjusted for sex, genotype, FEV <sub>1</sub> and mucoid <i>P aeruginosa</i> status at time of chest CT. p-value ≤0.001 | CRITICAL   |
| <b>Change/ decline in FEV<sub>1</sub> % predicted (Follow-up: 10 years; Better indicated by lower values)</b>                           |                  |              |                      |                |                                    |                               |   |            |
| Brody chest CT score, 1-point increase  | 1 (Sanders 2015) | Cohort study | CF centres in Europe | 60             | MD: -4.76 (95% CI: -7.80 to -1.72) | ⊕⊕⊕⊖<br>MODERATE <sup>1</sup> | Multiple linear model adjusted for sex, genotype, FEV <sub>1</sub> and mucoid <i>P aeruginosa</i> status at time of chest CT. p-value ≤0.003  | CRITICAL   |

Abbreviations: adjRR: adjusted rate ratio; CF: cystic fibrosis; CI: confidence interval; CT: computerised tomography; FEV<sub>1</sub>: forced expiratory volume in 1 second; MD: mean difference

<sup>1</sup> The quality of the evidence was downgraded by 1 due to no adjustments for the confounder of concurrent treatment with immunomodulatory and/or mucolytic agents