# Statement on Exercise Testing in Cystic Fibrosis

- Online supplement –

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Summary of the development of the statement and the Delphi process

The work on this statement was initiated during a meeting of the Exercise Research Workgroup at the North American Cystic Fibrosis Conference in 2010. The efforts were then supported by the European Cystic Fibrosis Society who established an Exercise Working Group in 2011 to develop this statement and other documents.

As a first step, Steve Boas, Helge Hebestreit, John Lowman and Don Urquhart drafted text modules summarizing the literature on exercise testing and interpretation with a special focus on CF. This information was presented at a 4-hour consensus group meeting prior to the 34th ECFS conference in Hamburg on June 8, 2011, with 18 attendees from Europe, Australasia und North America. During that meeting, the evidence was discussed openly with respect to conclusions for the statement on exercise testing. At the end of the meeting, participants completed a Delphi questionnaire with questions on the importance of exercise testing in general, the selection of patients to be tested, the staff and equipment required for conducting an exercise test, and the appropriate test protocols and measurements. The questionnaire was also sent to other experts in the field for a total of 36 responses available. Based on the discussion during the meeting in Hamburg in June 2011 and the responses to the first Delphi questionnaire, the draft manuscript was revised, circulated via email and revised again.

A second Delphi questionnaire was sent via email to the members of the group focusing more specifically than the first Delphi questionnaire on testing protocols and measurements. Furthermore, experts were asked for their recommendations to patients based on findings during the exercise test. This questionnaire was answered by 23 respondents.

A full-day meeting was held prior to the North American CF Conference on November 2, 2011 at Irvine/California. Using the information from the Delphi questionnaires, 7 experts edited the statement on exercise testing, phrased the recommendations and their respective rationales, and worked on the indications/contraindications to exercise testing. After the meeting in Irvine, the manuscript was circulated within the entire Exercise Research Workgroup and edited several times.

On June 6, 2012 the revised document was presented to 22 members of the Exercise Research Workgroup during a 5 hour meeting prior to the 35th ECFS conference in Dublin/Ireland. The group consented on some controversial issues around contraindications of an exercise test, reasons to stop a test and measurements taken during a test. Thereafter, document was circulated three more times with fine-tuning of the wording of the recommendations. A complete version of the document was then finalized during a face-to-face meeting of 14 experts at the 2012 North American CF Conference at Orlando. FL on October 11, 2012.

Based on feed-back from the ECFS and the CFF, the document was revised and revisions were discussed at the 36th ECFS conference in Lisbon on June 12, 2013.

The final document was reviewed by the ECFS, revised based on the comments received and acknowledged by the ECFS on February 17, 2014. The document was endorsed by the ERS on September 19, 2014.

The statement will be reviewed and revised in 5 years.