

ATS INFANT & PRESCHOOL PFT WORKING GROUP
MEETING NOTES
Monday, May 20, 2019

Infant PFT (RVRTC)/Sedation discussion

Dr. Sockrider & Dr. Ren exploring interest in designing research study to investigate alternative forms of sedation for infant PFTs.

- Infant PFT usage on the whole appears to be declining
 - nSpire device nearing obsolescence – company out of business
 - CareFusion/Jaeger device likely not to be supported in the next 3-5 years
 - Many groups now focusing on CF infants only, or not testing at all
 - In France, extra consent required, which has deterred testing
- Ongoing issues with sedation & concern with consequences of sedation
 - Chloral hydrate availability only an issue in the U.S. – one supplier, occasional supply gaps
 - Concern with long-term effects of any sedation in children
- Potential to instead explore other methods of testing in infants
 - Quiet sleep testing – MBW, possibly VMaxFRC – though neither terribly sensitive to early disease in CF infants
- Seems unlikely study will find much purchase
- Will send quick survey to group members regarding infant PFT usage and sedation choices
 - *Will attempt to compare to survey done ~6 years ago by this group (Stacey Peterson-Carmichael)*

MBW Updates

- **Infant/preschool MBW**
 - Infant MBW reference data being collected by Per Gustafsson – will have data in a few years
 - Both N2 and SF6 using Exhalyzer D
 - SF6 appears less variable between healthy subjects
 - NDD still getting validated for preschoolers
 - Probably several years away from technical standards for infant MBW (see below)
- **MBW device comparison**
 - There are research groups using both NDD and Ecomedics
 - NDD interface has been improved after working with Vertex – more ability for research oversight
 - GLI lung volumes used FRC collected from both NDD and Ecomedics – no difference by device
- **Clinical practice**
 - Using in clinical practice in some groups in Europe & Australia
 - Simplicity of device for clinical use vs. need for research oversight a bit at cross purposes
- **Updating standards/statements regarding MBW**
 - Paul Robinson suggested including infant MBW in update of ATS/ERS MBW Consensus Statement in a few years
 - Graham Hall noted that ATS PFT Proficiency Committee oversees most PFT Technical Standard documents (though not involved in MBW consensus statement)
 - Discussion of including MBW/LCI in update of lung volume document (last 2005) – next to be updated after PFT interpretation (just started)
 - *Paul Robinson will reach out to David Kominsky (chair of PFT Proficiency Committee) to discuss ability to include all MBW measures (not just FRC) in volumes document vs. maintaining as separate document*

GLI Update (Graham Hall)

- Gas transfer paper published
 - Caucasians only – not enough data to determine if values different in other races
- Final draft of lung volumes to be submitted in June
 - Pleth & MBW – TLC, FRC, RV, IC, ERV, RV/TLC, and LCI included
 - Caucasian only – again not enough data to know if different by race
 - Likely published in Fall, available as software update in Spring
- When all 3 are available & used together, will be introducing less error in calculating predictive values
 - E.g. as opposed to using GLI for spirometry & another set for volumes – different statistical techniques
- Also starting GLI forced oscillation
 - Will be open for data collection from June – December
- Also collecting data for FeNO and nasal NO
- **Ethnic Correction** continues to be a challenge for implementation
 - Graham mentioned using the “other” category when non-Caucasian works well
 - Largest data group – amalgamated all non-Caucasian individuals into one data set
 - Ancestry question is being investigated by GLI group
 - Currently collecting data from South America, Africa, and Southeast Asia
 - May be catalyzing a prospective study
- Paul Robinson will consider proposing GLI session for 2020 ATS – joint Peds & Structure/Function
 - Should have spirometry, gas transfer, and lung volume equations out by then

Other initiatives/projects:

- STRUCTURE/FUNCTION collaboration
 - Always enthusiasm within our group, but unclear how to proceed
 - Challenge given number of novel techniques and analysis methods developed by radiologist investigators
 - Also difficulties with how quickly things become out of date re: radiology/imaging
 - Consider discussing with Kathryn Ramsey and Harm Tiddens
 - Consider further discussion at ERS this year
- Succession/improving recruitment of junior faculty
 - Needs to be a topic of future discussion to bring new voices into the working group
 - Any thoughts/suggestions for next working group leader appreciated