

Exercise Testing: Is It the Gold Standard for Assessing Outcomes in Congenital Heart Care?

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Exercise Testing: Is It the Gold Standard?

Disclosures: none relevant to this topic.

Exercise Testing: Is It the Gold Standard?

- Yes!
- Well, maybe.
- Who wants to know?

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Let's stipulate what CPET cannot assess:

- Anatomy
- Valvular stenosis/regurgitation
- P/O residual lesions
- Effusions etc.
- Oh, and by the way, we're only talking about outpatient setting here.

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Modern CPET Lab:

- Ergometers
- ECG
- Blood pressure
- Oximeter
- Metabolic cart



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What can CPET measure?

- Physical working capacity/work efficiency
- Measurements of aerobic and anaerobic capacity
- Assessment of pulmonary function/efficiency
- Blood pressure
- Electrocardiography

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- Think of it like a test drive. Do you really want your patient to be out on the highway when this happens?



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So, what are the unique “value added” pieces of information that CPET provides to the outpatient visit?

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Functional capacity: only CPET can assess these parameters.

- How does the patient compare to expected norms and the healthy population.
- Assessment of both cardiac and NON-CARDIAC systems- pulmonary, musculoskeletal, neurologic.

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Symptomatology: CPET is really the only outpatient testing modality that can address this issue in an office setting.

- Is it cardiac output?
- Is it electrocardiographic?
- Is it pulmonary?
- Is it musculoskeletal?
- Is it psychological?

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Safety:

- Again, this gets back to “Do you really want to try this for the first time on the highway?”.
- Stress all the organ systems involved with exercise in controlled and monitored environment and...
- to a level that will equal or significantly exceed that to which the patient is likely to be exposed during the extreme of their routine activities.

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Safety: these results are translatable into recommendations regarding ability to successfully undertake:

- Competitive sports
- Recreational sports/activities
- Activities of daily living/employment

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Assessment and guiding of therapeutic interventions:

- Pre and post-operative/procedural interventions
- Exercise and fitness training and evaluation

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Prognosis:

- Serial testing
- Morbidity and mortality data based on CPET performance are available for most complex lesions.
- This body of work is growing regularly.

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So, is Exercise Testing the “Gold Standard”?

Yeah, pretty much.

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Thank you.