

Indirect calorimetry testing

What is an indirect calorimetry test?

Indirect calorimetry tests measure the oxygen used and carbon dioxide produced by your child's body while breathing. From this information we calculate how much energy your child uses and needs each day, and how their body uses its energy sources.

What is indirect calorimetry testing used for?

Indirect calorimetry helps our multidisciplinary team to create plans that will promote the health of your child. This includes advice about diet and exercise, nutritional goals, gaining lean muscle mass, ideal weights, and other lifestyle changes, depending on what best helps your child to be healthy.

How is indirect calorimetry testing performed?

To perform an indirect calorimetry test, your child will be resting on a bed with a clear canopy over their head and a plastic cover over their body. This prevents carbon dioxide or oxygen leaking as your child breathes, which would alter our results. The canopy attaches to a monitor that measures both the amount of oxygen used and carbon dioxide made by your child. Your child will need to be resting, not sleeping, to get an accurate result. Most tests should take 5 to 20 minutes and should last no longer than 30 minutes.

How do you prepare for an indirect calorimetry test?

For the most accurate results it is important that your child is fasted from food or drinks other than water for 8 hours, has not had any caffeine for 12 hours and has not done any vigorous activity in the 24 hours leading up to their test.

What information does an indirect calorimetry test supply?

Once the test is finished, your child's resting energy expenditure (REE) is calculated. This tells us how much energy your child uses and needs each day. We also get other information about how your child's body uses energy sources such as fat, protein and carbohydrates.



How accurate is an indirect calorimetry test?

While indirect calorimetry is very accurate at determining REE when someone is at rest, there are some factors that alter the results. For example, excess movement or rapid breathing would overestimate REE, while sleeping or slow breathing will underestimate REE.

Are there any risks with indirect calorimetry tests?

Indirect calorimetry is a very safe test; however, some children may be uncomfortable or claustrophobic with the cover near their face. If you have any concerns, we encourage you to discuss them with the doctor.

What happens after the indirect calorimetry test?

After the indirect calorimetry test your doctor, dietitian, physiotherapist and other members of our team will discuss the results. They will then discuss what options will likely be beneficial to help your child, and help create a treatment plan with you, that is practical for you, your family and your child.



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