

KDRP 224

EXERCISE AFTER KAWASAKI DISEASE

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PP1

Exercise After Kawasaki Disease Objectives

- Types of Exercise
- Response of the heart to exercise
- Effect of Kawasaki Disease on myocardial blood flow
- Recommendations for exercise after Kawasaki Disease

PP2

Understandably one of the major concerns of parents whose child has a heart problem is what kinds of exercise their child can do. And I would like to review the different types of exercise, the response of the heart to exercise. How Kawasaki Disease may affect blood flow to the heart, or myocardial, blood flow. And recommendations for exercise after Kawasaki Disease.

Static Exercise



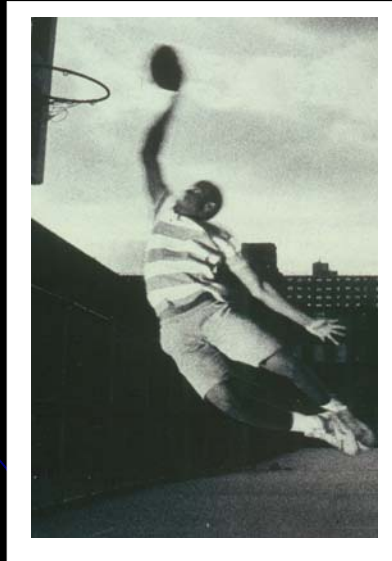
PP3

Sports Illustrated Magazine

10:00:35

Now exercise may be valuable two types. There is static or isometric exercise. Where there is very little muscle movement. So this would be weight lifting, rope climbing, tug of war, and archery. There is very little movement really but relatively constant force is exerted during the exercises.

Dynamic Exercise

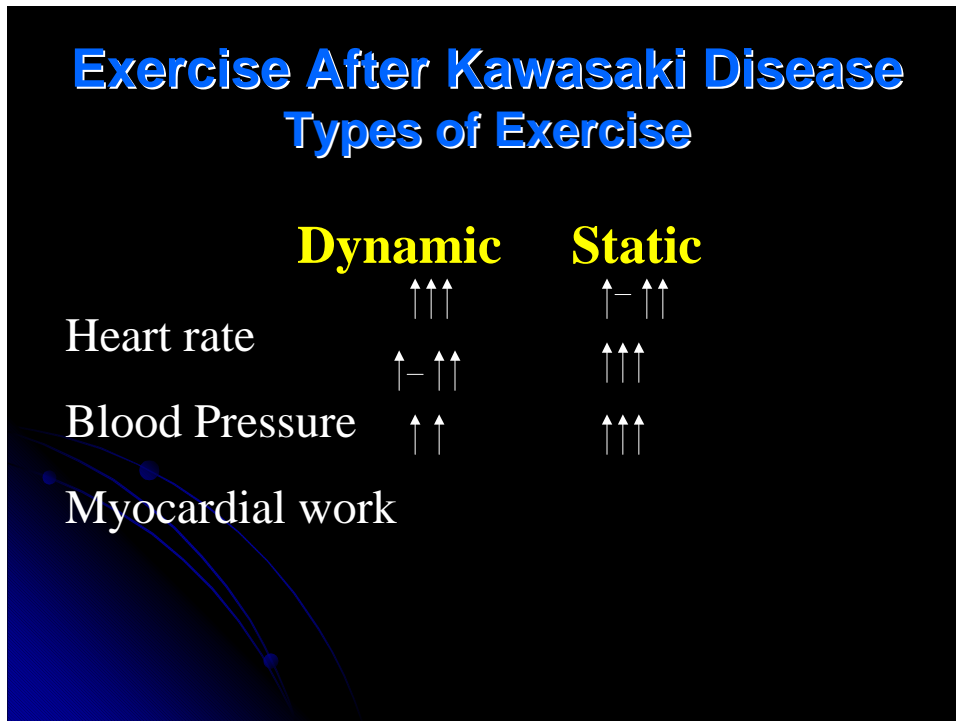


PP4

Sports Illustrated

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The other type of exercise is dynamic exercise such as running, basketball, and tennis. Where there is a lot of muscle movement and lot of extension and contraction of large groups of muscles.



PP5

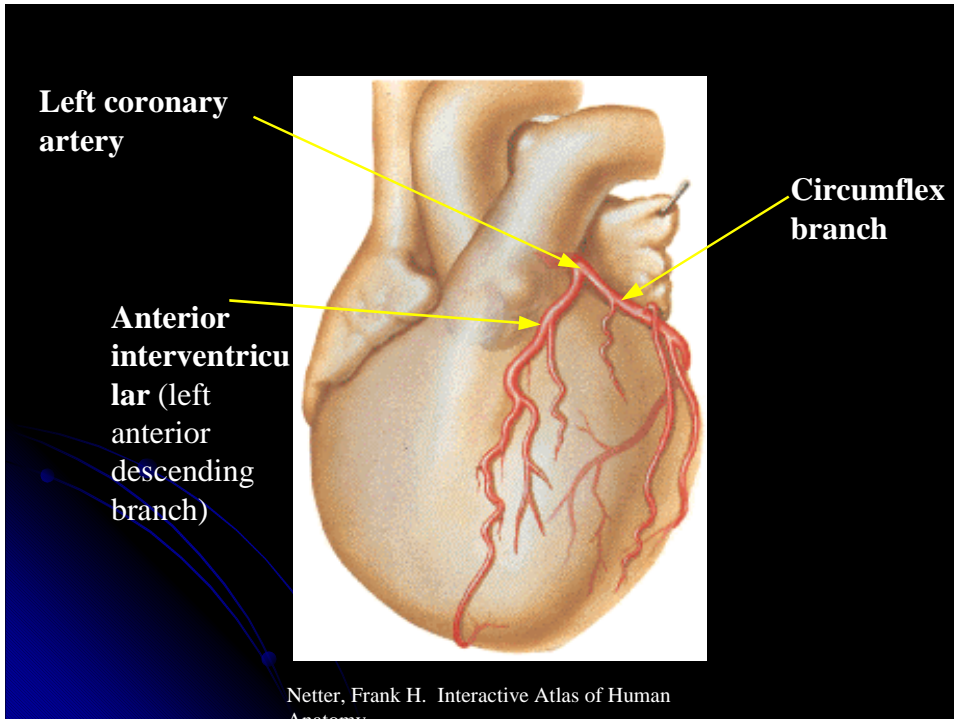
Now if we compare the two types of exercise, what we find is that with dynamic exercise, there is usually a very marked increase in heart rate, while with static exercise the increasing heart rate is not as great.

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But in contrast, dynamic exercise or there is an increase in blood pressure. It is much, much more significant increase in blood pressure occurs with static exercise.

10:02:57

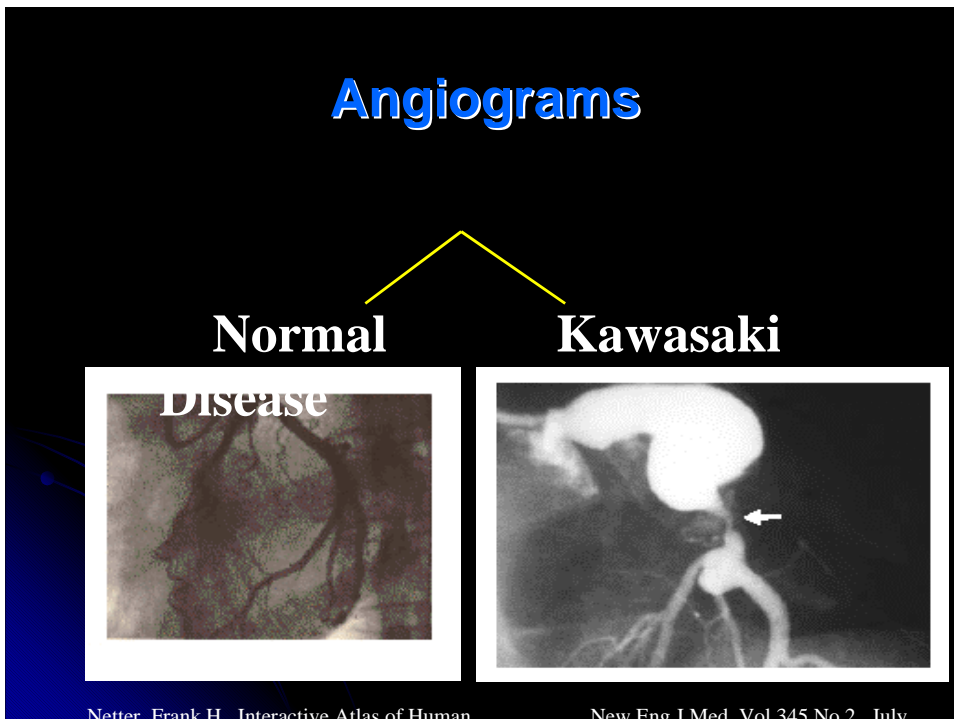
And because of this marked increase in blood pressure with static exercise. The amount of work that the heart has to do, that's the myocardial work, is much greater in static exercise than with dynamic exercise. And so generally patients who have heart conditions, we tend to advise them to avoid static exercise, such as shoveling snow.



PP6

10:02:26

This is a diagram of the heart and this is the left coronary artery, your right coronary artery is not shown, but it would be here. And the heart muscle receives its blood supply from the coronary arteries. And during exercise, because of the increase in the work that a heart has to do, it needs more blood flow during exercise than when you are at rest.



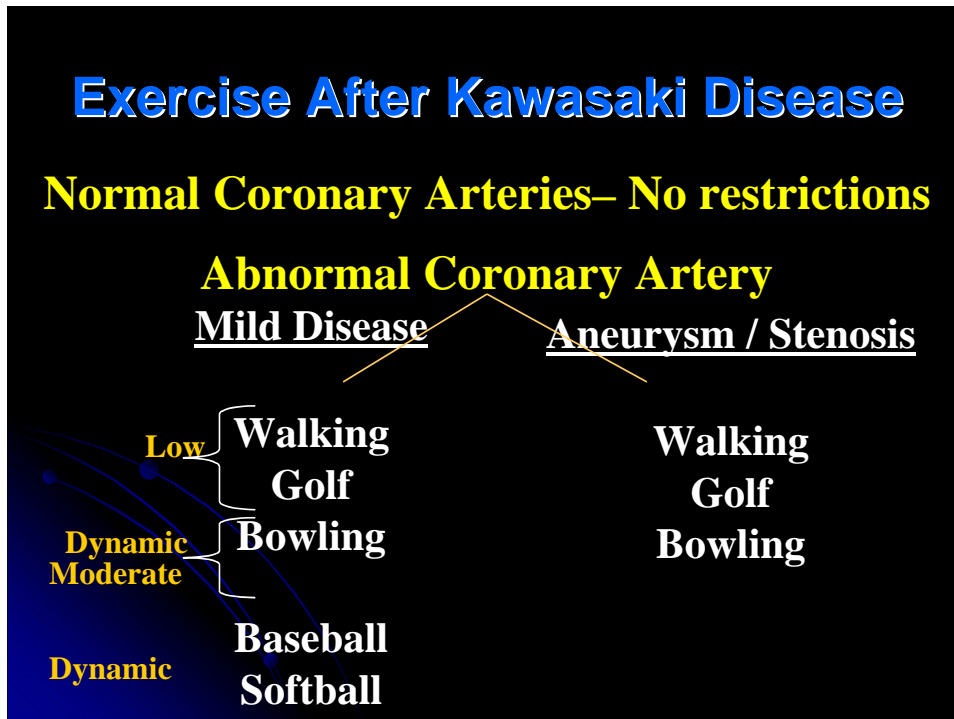
PP7

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This shows an angiogram in a normal coronary artery. And this is a coronary artery in Kawasaki Disease. There is a narrowing in this coronary artery.

10:03:45

Because of this narrowing, during exercise, the heart muscle that's supplied by the coronary artery beyond the narrowed area may not get enough blood flow. And as a result during exercise this patient may have chest pain, which is a manifestation of the heart, not receiving enough blood during exercise.



10:04:10

So these are some broad recommendations in terms of what exercise may be undertaken after Kawasaki Disease. And if the patient has mild disease, such as a dilation of the coronary artery, but no aneurysm, no narrowing. Then we recommend generally low dynamic, low static exercise such as walking, golf, and bowling. Bowling would have some static component to it as you have to lift the bowling ball. But generally it's a low static exercise.

10:05:57

And patients may also do moderate dynamic exercise such as baseball, softball. In contrast if the patient has aneurysm or narrowing of the coronary artery, then this is a group of exercise they would be restricted to performing. Just low dynamic low static exercise.

Exercise After Kawasaki Disease

Warning signs during exercise

- **Chest Pain**
- **Abnormally fast / irregular heart rate**
- **Fainting / Dizziness**

PP9

10:05:25

Now there are some warning symptoms that I think all patients who have heart problems should be aware of. If they occur during exercise they should speak with their cardiologist. And some of the important ones are chest pain, as I'm sure you all realize. If there's an abnormally fast or irregular heartbeat. Or if the child has any dizziness or, or has fainted during exercise, these are certainly very important warning symptoms and they should bring to your cardiologists notice.

Exercise After Kawasaki Disease Summary

- **Toddlers — No Restrictions**
- **Children**
 - **Normal coronary arteries — No restrictions**
 - **Abnormal coronary arteries — Modified exercise**
- **When in doubt, ask your Cardiologist**

PP10

10:06:07

Now my talk has been mainly geared towards older children. Generally toddlers we don't place any restrictions on their activity. Mainly because they are not going to be taking part in the heavy static type exercise that would create the strain on their heart.

10:06:32

So toddlers, we usually do not have any restrictions in terms of them running around playing with their siblings.

10:06:41

For older children, if the patient has normal coronary arteries after Kawasaki Disease, then we do not place any restrictions on their activity. And they can take part in all types of activity, including competitive sports.

10:07:

If there are abnormalities in the coronary arteries, such as aneurysm or narrowing of the coronary arteries, then restrictions as I outlined before would be placed on the child. The most important thing though is that when in doubt ask your cardiologist. These are just very broad recommendations, and every child is different. And may be able to do more than I have outlined here. Thank you.