

# The Beat

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FEBRUARY 15, 2018

Left Bundle
 Branch Block

SPECIAL POINTS OF IN

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#### VOLUME 6 ISSUE 9

## What is a Left Bundle Branch Block?

Electrical System of the Heart

What is a Left Bundle<br/>Branch Block? A leftSinoatrial (SA)<br/>NodeBranch Block? A leftNodebundle branch block is an<br/>electrical conduction<br/>problem of the heart. In<br/>order to explain it, let's<br/>take a look at the diagram<br/>to the right. The heart has<br/>an intricate electricalAnterior<br/>Internodal<br/>TractPosterior<br/>internodal<br/>TractMiddle<br/>Internodal<br/>TractPosterior<br/>internodal<br/>TractAnterior<br/>Internodal<br/>TractPosterior<br/>internodal<br/>TractNodeSystem. A normal heartbeat<br/>starts with an electricalArroventricular<br/>Node

signal being released from the sinus node. That signal travels thru the right top chamber and over to the left top chamber thru Bachmann's Bundle. The signal goes from the right top chamber down to the atrioventricular node (AV node). From the AV node, the signal is sent thru the His bunde and down into the left and right bundles. It is then transmitted into little fibers in



the ventricles called Purkinje fibers. This entire process causes the heart to contract and makes up one heartbeat. So a left bundle branch block is seen when there is a delay or block somewhere along the pathway of the left bundle. This delays activation of the left ventricle and can cause desynchrony among the two bottom chambers of the heart. Is a Left Bundle Branch Block Harmful? A left bundle branch block can be a sign of a diseased heart. Many people with a left bundle branch block have underlying blockage in the arteries of the heart. It can also be related to a weak heart muscle. Individuals that exhibit a left bundle branch block on their EKG may have a higher risk of having

other conduction disorders that can cause a very slow heart rate.

#### Does a Left Bundle Branch Block cause any symptoms?

It can but not necessarily. If the heart rates become too slow, symptoms of dizziness, passing out or near passing out may occur. If the heart muscle weakens, then symptoms of shortness of breath or fluid build up may also be present. If blockage is present, chest pain or pressure may occur as well. (6,5,3). Cont......Page 3

### **Tip of the Month**

#### Heart Healthy Snack Options:

- Nuts. They are easy to pack and do not need refrigeration. Nuts do have a lot of calories so only eat one serving at a time and make sure they are unsalted.
- 2. **Fruit and yogurt**. While the yogurt needs refrigeration, you could freeze the yogurt and the fruit and let it thaw while you are working if you do not have a refrigerator at work For this the little gogurts work well along with grapes or blueberries.
- 3. Apples and Peanut Butter. Yum! If you buy the all natural peanut butter such as JIF, it is very low in sodium as well.
- 4. **Edamame.** This is a great snack. These can usually be found in a frozen package so you can easily microwave them at work as well.



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Recipe from the book Breaking the Salt Habit by Erik Williams. (1).

# **Chicken Salad**

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#### Ingredients:

3 cups Boneless, Skinless, Chicken Breast5 Tbsp. Light Mayonnaise

5 Tbsp. Light Sour Cream

2 Tbsp. Celery, finely chopped

2 Tbsp. Cucumber

2 Tbsp. Green Onion, finely chopped

1\2 tsp. Garlic Powder

1\4 tsp. Basil

in cettons.		IIcal
. Boil chicken in sauce pan unt	i1	Servi
done.		Servi
Dice or shred chicken.		Calor
ingredients in a small bowl		Total
		Satur
		Chol
		Sodiu
		Total
		Prote
		Carb

Health Information Serving size: 1\2 cup Servings 6 Calories 172 Total fat 5g Saturated fat 7g Cholesterol 70 mg Sodium 136 mg Total fiber <1 g Protein 27g Carbohydrates 2g Potassium 306mg Sugar <1g

**Quote of the Month**: "If you can't fly then run, if you can't run then walk, if you can't walk then crawl, but whatever you do you have to keep moving forward." Martin Luther King Jr.

## Did you Know?

ACT FAST at the FIRST SIGN of STROKE





Did you know that time is brain when a stroke is occurring? There are certain treatments that can only be done within a certain time window so it is important to recognize the symptoms early and call 911. A new set of guidelines were released by the American Heart Association and the American Stroke Association last month which highlighted the importance of early treatment. When a stroke is caused by a blood clot or plaque that goes to the brain, it is called an ischemic stroke. This type of stroke can be treated with a type of medication that is called tPA (tissue plasminogen activator). Essentially this is a "clot buster". The reason it is so important to recognize stroke symptoms early and call 911 is because this medication needs to be given early. The recommended time frame is within

three hours of the onset of symptoms. There are some cases in which the drug may be given up to 4.5 hours from the onset of symptoms. A CT scan must be done before tPA is given to make sure the stroke is not related to bleeding. Another option is called mechanical thrombectomy. Basically a catheter is used to retrieve the clot out of the blood vessel. Like tPA, this too should be done as soon as possible. The window is a little bigger with ranges between 6 and 24 hours depending on the vessel and the individual. Stroke treatment has come a long way however these treatment options cannot be initiated if too much time has passed. So do not delay. Call 911 if there is any question so they can activate the stroke protocol at the nearest hospital. (2, 7).

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What causes a Left Bundle Branch Block? As stated earlier, many times a left bundle branch block is caused by blockage in the arteries of the heart. Sometimes, increasing age is a factor. Just like the wires in our house or our car wear out or break, the same is true with the heart. Other causes can be high blood pressure or a weak heart muscle. A virus or bacteria that affects the heart muscle can also cause a left bundle branch block to occur. Certain heart valve disease, especially disease of the aortic valve, can also be a culprit. Things that cause the heart muscle to thicken (left ventricular hypertrophy) can also cause a left bundle branch block.

How is a Left Bundle Branch Block Diagnosed? The diagnosis is made by a 12 lead EKG (electrocardiogram). A left bundle branch block has certain features that appear on an EKG to make this diagnosis. Other test may be needed though to find the cause because this finding is usually a "symptom" of another disease process. Other diagnostic test such as an echocardiogram will need to be done. An echocardiogram is just an ultrasound of the heart but it shows the heart structurally. On an echo, a weak heart muscle, abnormal thickening of the heart muscle, and heart valve problem can all be seen. Blockages of the arteries will need to be ruled out as well. Sometimes this can be done with a stress test, however



in many cases especially if there is high suspicion of blockage, a cardiac catheterization will need to be done. Other imaging may include a cardiac MRI. Laboratory studies will also be done to rule out other disease processes and help aid in the diagnosis of a heart attack.

What is the treatment of a Left Bundle Branch Block? The main goal of treatment is to find the underlying cause of the left bundle branch block and treat that disease process. In individuals with slow heart rate, a pacemaker may be placed. In some instances, a biventricular pacemaker may be placed to restore synchrony among the ventricles, especially if there is any weakening in the heart muscle. (6,5,3).