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## Beta-blockers overdose

Beta-blockers are a type of medicine used to treat high blood pressure and heart rhythm disturbances. They are one of several classes of medicines used to treat the heart and related conditions. Beta-blockers are also used in the treatment of thyroid disease, migraine, and glaucoma. These drugs are a common cause of poisoning.

Beta-blocker overdose occurs when someone takes more than the normal or recommended amount of this medicine. This can be by accident or on purpose.

This article is for information only. DO NOT use it to treat or manage an actual overdose. If you or someone you are with overdoses, call your local emergency number (such as 911), or your local poison control center can be reached directly by calling the national toll-free Poison Help hotline (1-800-222-1222) from anywhere in the United States.

## Poisonous Ingredient

The specific ingredient that can be poisonous in these medicines varies among the different drug makers. The main ingredient is a substance that blocks the effects of a hormone called epinephrine. Epinephrine is also called adrenaline.

## Where Found

Prescription beta-blockers are sold under various names, including:

- Acebutolol
- Atenolol
- Betaxolol
- Bisoprolol
- Carvedilol
- Esmolol
- Labetalol
- Metoprolol
- Nadolol
- Sotalol
- Pindolol

- Propranolol
- Timolol

Other medicines may also contain beta-blockers.

## Symptoms

Below are symptoms of a beta-blocker overdose in different parts of the body.

### AIRWAYS AND LUNGS

- Breathing trouble (shortness of breath, gasping)
- Wheezing (in people who have asthma)

### EYES, EARS, NOSE, AND THROAT

- Blurred vision
- Double vision

### HEART AND BLOOD

- Irregular heartbeat
- Lightheadedness
- Low blood pressure
- Rapid or slow heartbeat
- Heart failure (shortness of breath and swelling of the legs)
- Shock (extremely low blood pressure)

### NERVOUS SYSTEM

- Weakness
- Nervousness
- Excessive sweating
- Drowsiness
- Confusion
- Convulsions (seizures)
- Fever
- Coma (decreased level of consciousness or unresponsiveness)

Low blood sugar is common in children with this type of overdose, and it can lead to nervous system symptoms.

## Home Care

Seek medical help right away. Do NOT make the person throw up unless poison control or a health care provider tells you to do so.

# **Before Calling Emergency**

Have this information ready:

- Person's age, weight, and condition
- Name of medicine (and the ingredients and strength, if known)
- Time it was swallowed
- Amount swallowed
- If the medicine was prescribed for the person

## **Poison Control**

Your local poison control center can be reached directly by calling the national toll-free Poison Help hotline (1800-222-1222) from anywhere in the United States. This national hotline will let you talk to experts in poisoning. They will give you further instructions.

This is a free and confidential service. All local poison control centers in the United States use this national number. You should call if you have any questions about poisoning or poison control. It does NOT need to be an emergency. You can call for any reason, 24 hours a day, 7 days a week.

## **What to Expect at the Emergency Room**

Take the container with you to the hospital, if possible.

The provider will measure and monitor the person's vital signs, including temperature, pulse, breathing rate, and blood pressure.

Tests that may be done include:

- Blood and urine tests
- Chest x-ray
- ECG (electrocardiogram, or heart tracing)

Treatment may include:

- Activated charcoal
- Breathing support, which may include oxygen or a ventilator (tube through the mouth into the lungs and breathing machine)
- Intravenous fluids (IV, given through a vein)
- Laxatives
- Medicine to treat symptoms and reverse the effect of the drug
- Pacemaker to the heart for serious heart rhythm disturbances

## Outlook (Prognosis)

A beta-blocker overdose can be very dangerous. It can cause death. If the person's heart rate and blood pressure can be corrected, survival is likely. Survival depends on how much and what type of this medicine the person took and how quickly they receive treatment.

An overnight hospital stay may be needed even in less serious cases, as some long-acting drugs remain in the body for many hours.

Risk factors for a more severe outcome, including multiple organ failure and death, include:

- Co-ingestion with other drugs which affect the heart; for example, digoxin, calcium channel blockers, tricyclic antidepressants
- People with other health conditions, such as congestive heart failure and heart rhythm disturbances

## References

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