



## Seattle-King County EMS

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# CBT 243 Aspirin Administration for ACS

print version of EMS Online Course  
[www.emsonline.net](http://www.emsonline.net)

## Introduction

Aspirin is a common anti-inflammatory and anti-coagulant that may reduce the risk and size of a myocardial infarction. EMTs, as part of a pilot project, are authorized to administer a 325 mg aspirin tablet to patients with signs of acute coronary syndrome.

### Before You Begin

The View Elaboration links that appear throughout this course will display more information about the topic. External links are for the purpose of expanding your knowledge about the topic. These optional external websites have been reviewed and are appropriate for EMT continuing education. The course exams do not cover material from the external links.

### Practical Skills

There is no practical skills requirement for this course.

### Objectives

CBT243 is an EMT continuing education course. After completing this course you will be able to:

1. Identify symptoms of ACS.
2. Identify situations in which you should administer aspirin to a patient.

## Terms

**acute coronary syndrome (ACS)** — A term used to describe a range of symptoms and conditions from acute myocardial infarction to unstable angina, all due to underlying coronary artery disease.

## Acute Coronary Syndrome

Acute coronary syndrome (ACS) is a new term used to describe the range of clinical conditions from unstable angina to acute myocardial infarction. The symptoms, which vary from patient to patient, are caused by acute myocardial ischemia that in turn are due to underlying coronary artery disease. These include:

- Chest discomfort
- Chest pain
- Pressure
- Nausea
- Weakness
- Dysrhythmias
- Shortness of breath
- Syncope

### Acute Coronary Syndrome Symptoms

In acute coronary syndrome, shortness of breath can be due to a weakened heart that causes fluid to backup into the lungs. Palpitations can be caused by myocardial ischemia that makes the heart muscle irritable. Nausea and weakness can be due in part to stimulation of the vagus nerve. In addition, nausea can be caused by hypotension and direct abdominal stimulation.

## When to Give Aspirin

You should give one, non-coated 325 mg aspirin to a patient who has any of the following signs or symptoms of ACS. They include:

- Uncomfortable **pressure, fullness, squeezing or pain** in the center of the chest that lasts more than a few minutes or goes away and comes back
- **Pain that spreads to the shoulders, neck or arms**
- Chest discomfort with **lightheadedness, fainting, sweating, nausea or shortness of breath**

You also may give an aspirin to a patient who exhibits any TWO of the following signs or symptoms when ACS is suspected:

- Atypical chest pain, stomach or abdominal pain. This may include discomfort that can be localized to a point, that is “sharp” in nature, that is reproducible by palpation or that is in the “wrong” location (such as the upper abdomen).
- Unexplained nausea (without vomiting) or lightheadedness (not vertigo) without chest pain
- Shortness of breath and difficulty breathing (without chest pain)
- Unexplained anxiety, weakness or fatigue
- Palpitations, cold sweats or paleness

## Contraindications — When Not to Give Aspirin

There are three contraindications for the use of aspirin. They are:

- **Allergy to aspirin**
- A 325 mg **aspirin was taken for this event** within the last two hours
- Systolic blood pressure in both arms is different by **more than 15mm Hg**

## How to Administer Aspirin

Follow these steps when administering aspirin:

1. Be sure the patient is **alert and responsive**.
2. Check blood pressure **in both arms**.

The readings should be within 15 mm Hg of each other, otherwise do not administer aspirin. This difference in blood pressure can indicate an aortic aneurysm.

3. Ask the patient to swallow a single, non-coated 325 mg aspirin tablet with water.

Do not give enteric-coated aspirin  
It is okay to swallow or chew the tablet. The speed of absorption is almost the same.

4. If the patient has a prescription for nitroglycerin and meets the criteria for administration, do not delay in assisting with nitroglycerin.

Assist with administration of nitro before giving aspirin.

5. **Request a paramedic** response if paramedics were not dispatched.
6. **Record your actions**, including the dosage and the time of administration.

## Frequently Asked Questions

### **1. Why are we giving aspirin to patients with ACS?**

The main effect of early aspirin administration is its anti-inflammatory properties. This helps protect inflamed heart muscle that may be in jeopardy from ischemia.

Aspirin also reduces the body's production of prostaglandins. Prostaglandins can cause platelets in the blood to stick together. This can lead to blocked blood vessels and prevent delivery of oxygen-rich blood to the tissues. Reducing the prostaglandins may reduce the risk of dangerous blood clots, heart attacks and strokes. The anti-platelet effect takes an hour to "kick in."

### **2. What if the patient is not alert?**

Administer aspirin only if the patient is fully alert.

### **3. What if the patient has his or her own nitro prescription?**

If a patient has his or her own nitroglycerin and meets the criteria for administration of nitro, do not delay in assisting with nitro. Administer the nitro using local protocol, then give aspirin.

### **4. What if patient has taken other medications such as ibuprofen (Advil) or acetaminophen (Tylenol) in the last few hours?**

You should still give an aspirin.

### **5. What if the patient takes daily aspirin?**

You should still give an aspirin unless the aspirin was taken in the last couple of hours. The patient may be taking an 80 mg dose that is not strong enough for an anti-inflammatory response (though it will cause an anti-platelet response). Therefore a full strength aspirin is indicated.

## Summary

EMTs (in King County) are authorized to administer **one 325 mg aspirin** tablet for patients with acute coronary syndrome (ACS).

Administer an aspirin to patients with **signs or symptoms of ACS**:

- Uncomfortable pressure, fullness, squeezing or pain in the center of the chest that lasts more than a few minutes or goes away and comes back
- Pain that spreads to the shoulders, neck or arms
- Chest discomfort with lightheadedness, fainting, sweating, nausea or shortness of breath

**Contraindications** for use of aspirin:

- Allergy to aspirin
- 325 mg aspirin was taken for this event (within the last two hours)
- Systolic blood pressure in both arms is different by more than 15mm Hg

Steps in **administering aspirin**:

1. Be sure the patient is alert and responsive.
2. Check blood pressure in both arms.
3. Ask the patient to swallow a single, uncoated 325 mg aspirin tablet.
4. Do not delay in assisting with nitro if the patient has a prescription and meets criteria.
5. Request a paramedic response.
6. Record the dosage and the time of administration.