

Title: Plavix and Surgery

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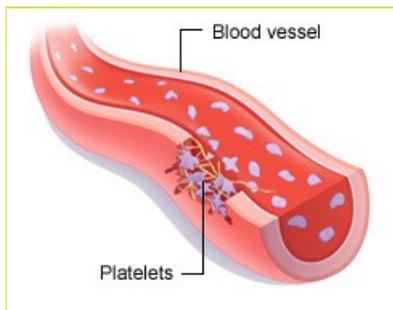
Key words: Platelets, Clopidogrel, Plavix, Antiplatelet therapy, Surgery

Abstract: Clopidogrel is a suicide inhibitor of ADP receptors on platelets preventing ADP activation of GPIIb/IIIa and subsequently preventing platelet aggregation. While this is beneficial in preventing thrombotic events, in the setting of surgery it can lead to increases in major bleeding events, require more blood and platelet transfusions, and even lead to further operations to correct for hemorrhage. Current recommendations suggest stopping clopidogrel prior to surgery. This pamphlet describes the function of platelets, function of clopidogrel and finally summarizes the current recommendations for antiplatelet therapy and surgery.

This document was created by a medical student enrolled in the Primary Care Clerkship at the University of Minnesota Medical School as part of the course project. The aim of the project is to present information on a medical topic in the format of a patient education handout. It does not necessarily reflect the views of the University of Minnesota Medical School physicians and faculty. These materials are provided for informational purposes only and are in no way intended to take the place of the advice and recommendations of your personal health care provider. The information provided may no longer be up to date since it has not been reviewed since the date of creation. The information provided should not be used to diagnose a health problem or disease, or as a means of determining treatment. In the event of a medical emergency, immediately contact a doctor or call 911.

WHAT ARE PLATELETS?

- Blood carries everything we need to survive to all parts of our body. Blood travels in vessels much like the water in our house travels in pipes.
- Imagine if one of those pipes broke, what would happen? Water would likely flood your house. The same would happen if a blood vessel broke. But anyone who has cut their finger knows that the bleeding stops. Why?
- Because platelets work to stop the bleeding. They are the repair trucks of our body. They look for leaks in our vessels and plug them up. Much like a plumber would plug a leaky pipe.



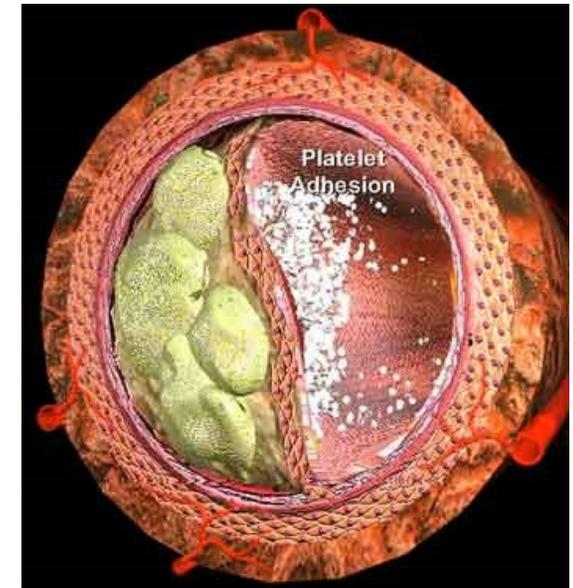
CONCLUSIONS

- Platelets are very important in preventing bleeding and closing cuts and tears in our vessels.
- Platelets can also clump on plaques causing vessels to clot off. If this happens in your heart vessels you can have a heart attack.
- To prevent this your doctor may start you on Plavix and likely also Aspirin. This will increase your risk of bleeding after surgery.
- Prior to surgery you need to work out with your primary care doctor to establish a plan for stopping and restarting Plavix to keep the risk of bleeding and risk of clotting low. Your surgeon may make suggestions on when to stop and restart Plavix and Aspirin.
- **NEVER stop Plavix without first consulting your doctor.** Doing so can place you at risk of high of fatal heart attacks and strokes.

Images from:

Cover image: strokecenter.org,
UMN logo: <https://www.student.med.umn.edu/>,
Occluding vessel: <http://www.plavix.com/clopidogrel/clots.aspx>
Platelets forming clot: <http://www.lowplatelets.com/about-low-platelets-overview.html>
Hand holding Plavix bottle: <http://www.usatoday.com/news/>

Plavix and Surgery



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University of Minnesota
Family Medicine Clerkship
Patient Education Tool

SO I AM HAVING SURGERY AND I AM ON PLAVIX. WHAT TO DO?

HOW DOES PLAVIX WORK?

- Plavix is poison to platelets. It prevents platelets from being able to clump together and form clots.
- This will prevent vessels with plaques from becoming blocked. But it will also stop the repair trucks in our body from being able to fix our leaky pipes. This means more bleeding.

SO WHY DO I NEED PLAVIX



- Our blood vessels are not perfect tubes. Because of our diet and normal wear on the vessels there is debris called plaques which narrow our vessels, much like debris can cause clogs in plumbing.
- Platelets react the same to plaques as they do to tears in the vessel: they will bunch together. This may completely block the vessel.
- When this happens the blood cannot flow and deliver nutrients to tissues. When the blockage is in the heart, a heart attack can occur.
- Plavix can help prevent this.



- There are a number of reasons your doctor might have put you on Plavix. Most likely your doctor is worried

that a clot might form in your heart vessels and cause a heart attack.

Your doctor might have also put you on Aspirin, which also prevents platelets from clumping together.

- But now you are having surgery and Plavix increased your chances of bleeding after surgery. So what should you do? A lot depends on why you are on Plavix and what surgery you are having. The tables on the next page can help you and your doctor work out a plan for stopping Plavix and Aspirin prior to surgery.

FOR PATIENTS ON PLAVIX FOLLOWING A HEART ATTACK

SURGERY	PLAVIX	ASPIRIN
CORONARY BYPASS:	Stop 5 –10 days prior to surgery. Restart 24h after.	Continue throughout surgery.
GENERAL SURGERY:	Stop 7 –10 days prior to surgery. Restart 24h after.	Stop 5 –10 days prior to surgery. Restart 24h after.
SKIN:	Continue through surgery.	Continue through surgery.

FOR PATIENTS ON PLAVIX FOLLOWING A CORONARY STENT

SURGERY	PLAVIX	ASPIRIN
CORONARY BYPASS:	Stop 5 –10 days prior to surgery. Restart 24h after.	Continue throughout surgery.
GENERAL SURGERY:	Stop 5 –10 days prior to surgery. Restart 24h after.	Continue throughout surgery.
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