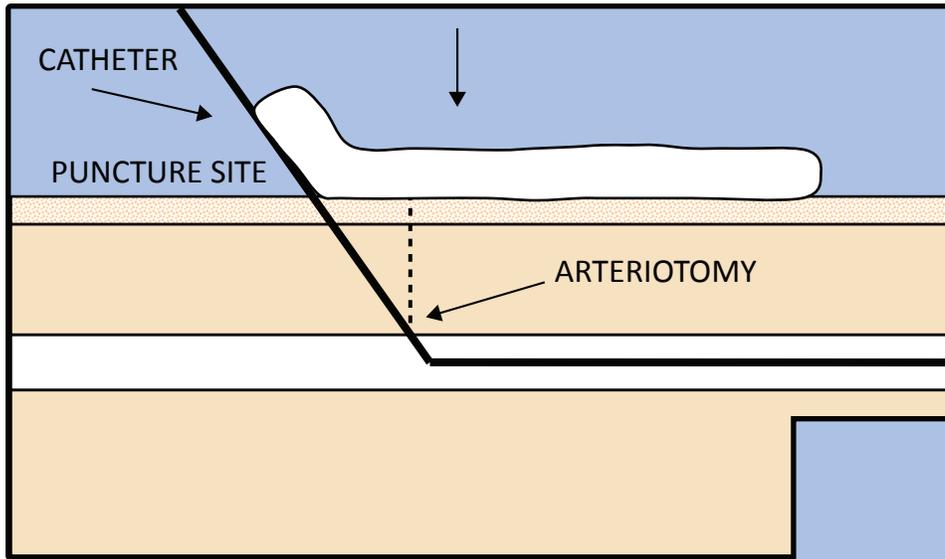




# TZ MEDICAL NEPTUNE SCIENCE

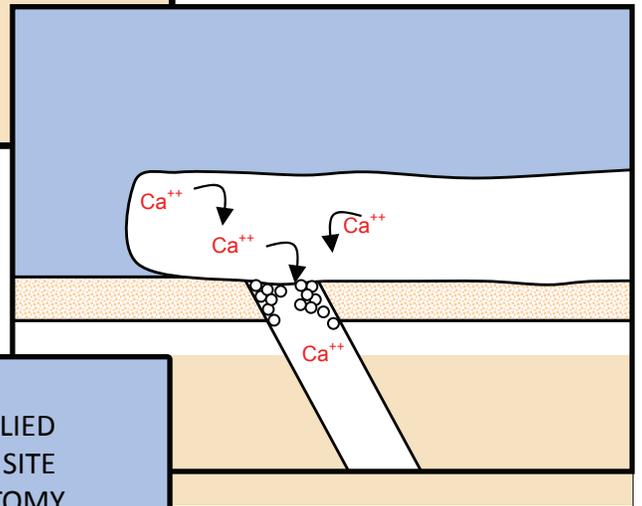
## What Makes Neptune So Effective?



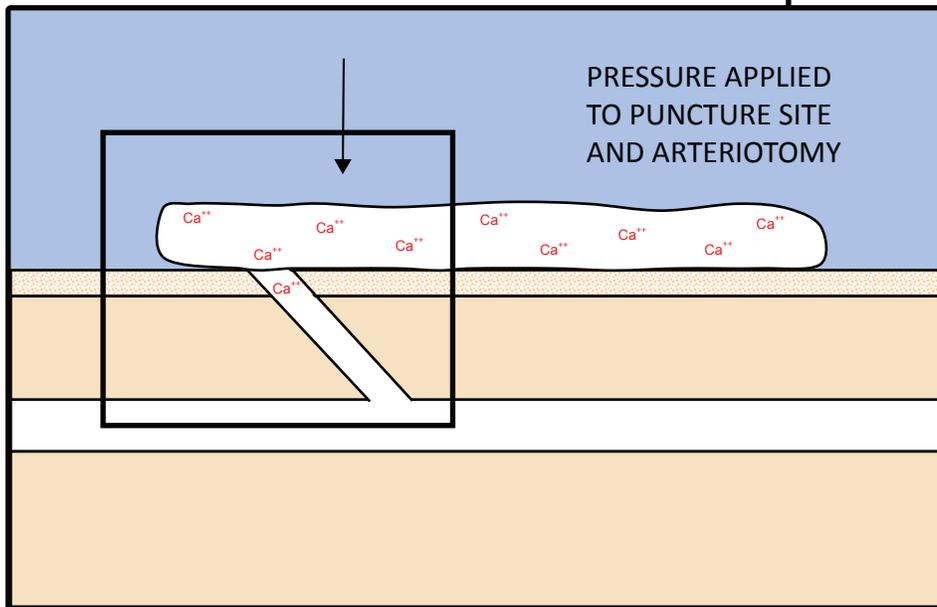
Neptune's calcium alginate provides additional calcium ( $\text{Ca}^{++}$ ) ions for the clotting process and to speed topical hemostasis.

*Application of Neptune over arteriotomy and puncture site*

Drawing proportion is enhanced to show the  $\text{Ca}^{++}$  effect

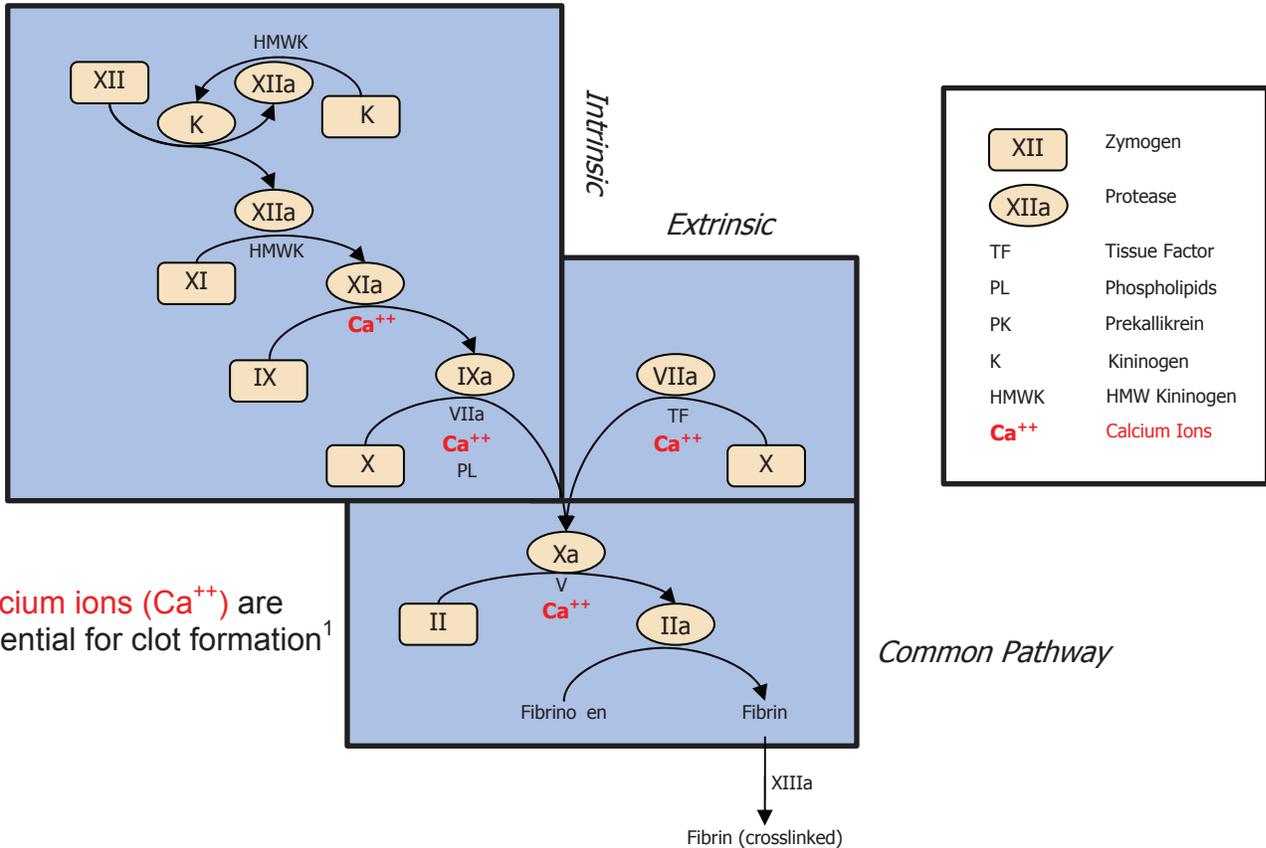


*Neptune provides additional calcium to speed the clotting process.*





# TZ MEDICAL NEPTUNE SCIENCE



Calcium ions (Ca<sup>++</sup>) are essential for clot formation<sup>1</sup>

## Neptune Calcium Alginate Pads work three ways by providing:

1. Additional calcium ions to speed topical clot formation
2. Hydrophilic absorption of excess blood as it speeds the clotting process
3. A textured matrix to facilitate clot formation

<i>In vitro</i> coagulation (clotting) <sup>1</sup>	Clotting Time
Whole Blood	4-8 minutes
Whole Blood + EDTA (or citrate)	Infinite
Citrated platelet-poor plasma + Ca <sup>++</sup>	2-4 minutes

Note: EDTA or citrate bind the available calcium ions in the blood so that they are unavailable for the clotting process

<sup>1</sup>Tollefsen, Douglas M.D. Ph.D, Internal Medicine and Biochemistry and Molecular Physics, Blood Coagulation, Washington University

When calcium ions are unavailable to the process, clotting time is infinite.

Adding back an excess of Ca<sup>++</sup> to citrated platelet-poor plasma causes clot formation.