

## FAQ's

### 1- What is Axiostat?

Axiostat is a sterile, non-absorbable haemostatic dressing intended to control bleeding within minutes of application by providing an active mechanical barrier to the wound site.

### 2- How does the Axiostat works?

Axiostat works on a principle of adhesion due to charge. Axiostat made with 100% chitosan has been designed to be positively charged and blood cells carry a net negative charge. When blood comes in contact with Axiostat, oppositely charged components are attracted and form bonds. This results in a strong adhesive seal that acts as a mechanical barrier preventing blood from leaking out. Axiostat enhances the natural process of clotting by platelet aggregation and formation of fibrin at wound site.

### 3- What are the indications of Axiostat?

We recommend using Axiostat in various indications such as,

- A. Intervention Cardiology procedures (Femoral, Axillary, Radial Artery)
- B. Intervention Radiology procedures
- C. Haemodialysis procedures
- D. Emergencies, Trauma and accidents
- E. Dental procedures
- F. Surgical

### 4- What is the source of Chitosan in Axiostat?

Chitosan is derived from Chitin, a second most abundantly available natural polymer after cellulose. Chitin is naturally found in the exoskeleton of shellfish such as crabs and shrimps, and in the cell membranes of fungi, yeasts and other microorganisms.

### 5- Can I use Axiostat in a patient with seafood allergies?

Yes, the Axiostat is safe to use in patients with seafood allergy. During the deproteinization process of Axiostat production, the allergic protein content is being removed completely that leads to seafood allergy free final products. There have been some clinical papers on the safety of Chitosan on seafood allergic patients.

### 6- How does the Axiostat differs from traditional gauze?

Axiostat is a Chitosan composed haemostatic agent offers safety, efficacy and convenience to the patients.

Efficiency: The radial artery patency is a major concern when closing the vascular punctured sites. The Chitosan in the Axiostat enhances the clot formation by aggregation of platelets and fibrin formation at injured sites quickly within 3-5 minutes thus reduces compression time which is seen about 15-20 minutes when using traditional gauze. The arterial patency is achieved 100% with Axiostat.

Convenience: The Axiostat can be deployed immediately following procedure on the operating table up to the ACT level 350 Sec and heparin dose of 12,000 IU. This results in reducing patient's ambulation time and early discharge during busy Cath labs and wards.

7- Does Axiostat causes the Radial Artery Occlusion?

The Axiostat offers patent haemostasis since the compression time with Axiostat is significantly lower than compression exerted through traditional gauze system. We always recommend checking the radial pulse patency post removal of Axiostat which is intact.

8- What is the maximum heparin dose and sheath size I can use Axiostat?

The Axiostat can be use without any fear until the heparin dose of 12,000 IU, ACT 350 Sec and sheath size 11Fr, even if the sheath is being removed immediately at the operating table.

9- Does it cause Hematoma using Axiostat?

Axiostat is an Assisted Compression Device and deployment is similar to that of using gauze during manual compression and thus does not cause any Hematoma as it applied topically. The benefit of using Axiostat is it accelerates the platelets and creates a robust seal in much faster time. Also, we have seen there is drastic fall in complication rates in the centres where Axiostat is being used.

10- Can we deploy Axiostat in Antegrade puncture sites?

Yes, Axiostat can be deployed in both retrograde & antegrade punctures.

11- Can it be used in case of multipuncture?

The deployment of Axiostat is similar to Manual compression using gauze. In case of multi puncture the site is compromised and thus it is ideal to use Axiostat.

12- Can it be used in paediatric cases?

Paediatric cases like ASD & VSD are performed through Femoral access sites. Axiostat can be deployed in Paediatric cases as well and is very useful has the hold time goes down drastically.

13- Axiostat is applied topically. How does the bleeding stop internally as the artery lies beneath the skin surface?

Axiostat works on a principle of adhesion due to charge. Axiostat made with 100% chitosan has been designed to be positively charged and blood cells carry a net negative charge. When blood comes in contact with Axiostat, oppositely charged components are attracted and form bonds. This results in a strong adhesive seal that acts as a mechanical barrier preventing blood from leaking out. Axiostat enhances the natural process of clotting by platelet aggregation and formation of fibrin at wound site.

14- Can we access the same access site within same day?

Axiostat is an Assisted Compression Device and deployment is similar to that of using gauze during manual compression and does not go into the artery unlike other VCD's in the market.

Thus, we can re-access the puncture site after 6 – 7 hours once the haemostasis is achieved using Axiostat

#### Instructions to use: Radial accessed sites V35:

Check for ACT and Heparin dosage administered before removal of sheath, as this could affect time of haemostasis. We recommend to strictly adhere to the hospital/trust guidelines or protocol before beginning with sheath removal.

- 1- Clean and sterile your hands and wear gloves, before removing the sheath.
- 2- Apply pressure the proximal part of the puncture artery using 3 finger technique
- 3- Remove the sheath carefully and clean the access site
- 4- Gently release the pressure on proximal artery allowing 2-3 drops of blood to ooze
- 5- Apply V35 with one layer of Cotton Gauze over it and compress it for 3 minutes and then gradually reducing pressure up to 5 minutes.
- 6- 6.a) After gradually release the pressure from Axiostat and check for peripheral oozing up to 5-10 seconds. Apply secondary adhesive dressing (Dynaplast) in 2 layers around the wrist. If there is no sign of peripheral oozing, keep the secondary dressing for 60 minutes (minimum) to 3 hours as per heparin protocols to go out of blood flow.
- 6.b) If the oozing persists after 5 minutes, continue compression further for 2 minutes until the haemostasis has been achieved.

**Note: The manual pressure with hands can be replaced by compressing for 1-2 minutes with axiostat along with sterile cotton gauze and then placing the tourniquet over it for 45 minutes to 60 minutes with mild optimum pressure (no bleeding with feeling pulse) to maintain patency of artery and achieve zero occlusions.**

#### Instructions for use – Femoral accessed sites (V55)

- 1- Clean and sterile your hands and wear gloves before removing the sheath.
- 2- Apply pressure to the proximal part of the puncture artery using 3 finger technique
- 3- Remove the sheath carefully and clean the access site
- 4- Gently release the pressure on proximal artery allowing 2-3 drops of blood to ooze
- 5- Apply V55 with one layer of Cotton Gauze over it and compress it for 3-4 minutes and gradually reducing pressure up to 5-6 minutes.
- 6- 6.a) After Gradually release the pressure from Axiostat, check for peripheral oozing up to 5-10 seconds. If there is no further bleeding, then apply secondary adhesive dressing (Dynaplast) in 3 layers around the groin area protecting the accessed site. Keep the secondary dressing for 360 minutes minimum or as per hospitals recommended times.
- 6.b) If the oozing persists after 5 minutes, continue compression further for 2-3 minutes until the haemostasis has been achieved and then apply secondary dressings.

### Instruction for removal of Axiostat

1. Clean and sterile your hands. Wear gloves before removing the Axiostat. Take off the secondary dressing material gently.
2. Irrigate Axiostat with saline or distilled water and peel off the Axiostat gently. Since Axiostat is mucoadhesive in nature, there are chances of Axiostat slightly sticking to the wound site.
3. Clean the wound site with saline and dry it off.
4. Apply a dressing to cover a wound site as per hospital guidelines.

**Note: Axiostat can be placed up to 48 hours without any infection at the applied site before removal.**

### Instructions for use – Surgery (S55, M85, L88)

1. **All procedures:** Apply a dressing to cover a bleeding site and compress for 3-5 minutes by the time it sticks to the bleeding site.
2. Continue with the procedure and remove it at end of procedure with saline/distilled water.
3. Minimum time before adding saline/water for removal should be 5-6 minutes.
4. **For suture anastomosis oozing:** Cut small strips (or use N14/N18) and apply with compression for 30 seconds to 90 seconds by the time it sticks to the site. Continue with procedure and remove with saline at end of procedure. Minimum time before adding saline for removal be 5-6 minutes.
5. **For Liver resection bleeding,** compress for 4-5 minutes by the time it sticks to bleeding site and have no peripheral oozing after gradual removal of pressure. In case of peripheral oozing, compress another 1-2 minutes. Continue with procedure and remove it at the end of procedure with saline or distilled water. Minimum time 5-7 minutes before adding saline to remove.

### Benefits:

**Surgery:** No cellular inflammation, no edema and vascular stenosis as compared to absorbable haemostats.

**Cardiology and Radiology:** Zero artery occlusions, freedom to access all artery and veins routes, usage with multipuncture and bifurcating arteries, Re-access after 6 hours.

**Note: Effective for patients taking blood thinners/anti-platelet therapies/Anticoagulants.**