

	6405B	TXA Written Exam
Nor-Cal EMS Policy & Procedure Manual		Training/Skills
Effective Date: 03/01/2025		Next Revision: 03/01/2028
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## Authority

Health and Safety Code Division 2.5, California Code of Regulations, Title 22, Division

1. Which of the following is not one of the three steps/items needed to achieve hemostasis?
  - a. Vascular spasm
  - b. Platelet plug formation
  - c. Administration of crystalloid IV fluid boluses
  - d. Coagulation
  
2. The coagulation process is sometimes described as a 'cascade' because chemicals called clotting factors prompt reactions that activate additional clotting factors.
  - a. True
  - b. False
  
3. Which one of the following is not a contributing factor to trauma-associated hyperfibrinolysis?
  - a. Vasodilation
  - b. Blood loss
  - c. Dilution due to IV fluid boluses
  - d. Dysfunction of coagulation factors due to hypothermia and acidosis
  
4. Which one of the following describes the mechanism of action of TXA?
  - a. Synthetic derivative of lysine that inhibits fibrinolysis by blocking the lysine binding sites on plasminogen
  - b. Inhibits both plasminogen activation and Plasmin activity thus preventing clot breakdown
  - c. Catalyzes the conversion of plasminogen to plasmin
  - d. Both A & B
  - e. All of the above
  
5. What is the minimum patient age for administration of TXA under Nor-Cal EMS standing order treatment protocol?
  - a. There is no minimum age
  - b. 12 years old
  - c. 15 years old
  - d. 18 years old
  
6. Which of the following is an indication for administration of TXA under Nor-Cal EMS standing order treatment protocol?
  - a. Blunt or penetrating traumatic injury with signs and symptoms of hemorrhagic shock (including SBP < 90)
  - b. Hemorrhage not controlled with direct pressure, hemostatic agents, or commercial tourniquet application
  - c. Both A & B
  
7. Which one of the following is not a contraindication for administration of TXA?
  - a. Time since injury > 3 hours
  - b. Isolated traumatic brain injury
  - c. Thromboembolic event (i.e. stroke, MI, PE, DVT) within the past 24 hours

- d. Traumatic arrest with > 5 minutes of CPR without ROSC
  - e. Patient has no visible bleeding
  - f. Hypotension secondary to suspected cervical cord injury with motor deficit or spinal shock
8. What is the correct dose of TXA?
- a. 0.5gm
  - b. 1 gm
  - c. 100 mg
  - d. 1 mg/kg
9. Which of the following is the correct procedure for administration of TXA?
- a. IV/IO push as rapidly as possible
  - b. IV/IO push over 2 minutes
  - c. Mix appropriate dose of TXA with 100 mL or 250 ml bag D5W or NS and infuse over 10 minutes
  - d. Mix appropriate dose of TXA with 1000 mL NS or LR and run wide open
10. Which of the following is a possible side effect of TXA?
- a. Acute gastrointestinal disturbances
  - b. Visual disturbances
  - c. Thromboembolic events (DVT, PE, etc.)
  - d. Dizziness, fatigue, headache
  - e. All of the above
11. The coagulation cascade is classically divided into three pathways?
- a. "Extrinsic Pathway": triggered by trauma
  - b. "Intrinsic Pathway": triggered by internal damage of the vessel wall
  - c. Extrinsic & intrinsic pathways both activate the "Final Common Pathway" of factor X, thrombin & fibrin
  - d. All of the above
  - e. None of the above
12. Three steps are needed to achieve hemostasis, the stopping of a flow of blood?
- a. True
  - b. False
13. The three steps needed to achieve the stopping of blood flow are?
- a. Blood Vessel Constriction
  - b. Platelet Plug Formation
  - c. Coagulation
  - d. None of the above
  - e. All of the above
14. Coagulation is the process by which blood changes from a liquid to a gel (described as a 'cascade'), forming a blood clot?
- a. True
  - b. False
15. Coagulopathy frequently encounter in hemorrhagic shock has been shown to be an independent risk factor for death after trauma?
- a. True
  - b. False

16. What drives the situation where there is markedly enhanced fibrinolytic activity (prevention of blood clot formation), resulting in increased, sometimes catastrophic bleeding?
- Major tissue trauma
  - Severe shock
  - Both
  - Neither
17. TXA is a synthetic amino acid (lysine) that blocks plasminogen from being converted to the enzyme plasmin (the enzyme that halts the clotting process)?
- True
  - False
18. TXA leads to the formation of fibrin which is the 'mesh' that impedes blood flow for the formation of a clot?
- True
  - False
19. This 'mesh' attracts clotting factors and strengthens platelet clot plugs?
- True
  - False
20. In the CRASH 2 study there was an increase in the mortality rate for patients who received TXA greater than 3 hours after the traumatic event?
- True
  - False
21. Each patient that has TXA administered, it shall be documented in both the 'medications' and 'narrative' section of the PCR?
- True
  - False
22. All ALS organizations are required to conduct a 100% review of all prehospital TXA administrations?
- True
  - False