Prevention and management of medical emergencies, including medically complex patients

National Dental Examining Board of Canada (NDEB) Virtual OSCE and Assessment of Fundamental Knowledge (AFK)

About 12% of the Virtual OSCE · 4 topics · 2026 blueprint

Prevention and management of medical emergencies, including medically complex patients, covers assessing medical risk before dental care, modifying treatment for chronic conditions, and recognizing and treating emergencies in the dental office. It is about 12% of the Virtual OSCE in NDEB's 2026 blueprint. Questions ask you to identify the emergency from signs, give the correct first steps and drug dose, and decide when to defer, modify or refer care.

You should be able to: A patient with chest pain took tadalafil yesterday. Systolic pressure is 140 mmHg. Should you give nitroglycerin?

Every topic: the key point and the trap

ME-1 Risk assessment before treatment

A full medical history, medication list, allergies and vital signs (blood pressure, pulse) come before any treatment; update them at every visit.

Trap: Giving prophylaxis for a prosthetic joint or a heart murmur without valve disease, or still listing clindamycin for allergic patients. Guidelines limit prophylaxis to the highest cardiac risk, and the alternatives for penicillin allergy are cephalexin 2 g (without anaphylaxis history), azithromycin 500 mg or doxycycline 100 mg.

ME-2 Syncope, hypoglycemia and seizures

Vasovagal syncope is the most common office emergency: pallor, sweating, nausea, then loss of consciousness. Place the patient supine with legs raised, loosen tight clothing and give oxygen if available.

Trap: Giving oral glucose to an unconscious patient. The airway is not protected; use glucagon intramuscularly and call emergency services.

ME-3 Chest pain, anaphylaxis and asthma

Angina: stop treatment, sit the patient up, give nitroglycerin 0.4 mg sublingual spray or tablet; repeat every 5 minutes up to 3 doses if systolic pressure stays above 90 mmHg.

Trap: Using the 0.1 mg/mL (1:10,000) concentration intramuscularly or giving an antihistamine first. The intramuscular product is 1 mg/mL, and delay of epinephrine is the main cause of death in anaphylaxis.

ME-4 Bleeding risk and other complex patients

For warfarin, check the INR within 24 hours before surgery; simple extractions are generally done without stopping warfarin when the INR is in the therapeutic range (usually up to 3.5), using local hemostatic measures.

Trap: Telling a patient to stop an anticoagulant or antiplatelet drug on your own. The thrombosis risk usually outweighs the dental bleeding risk, which local measures control.

Key terms

ASA physical status: A classification of systemic health from I (healthy) to VI that helps estimate the risk of treatment.

Vasovagal syncope: Temporary loss of consciousness from a drop in blood pressure and heart rate, often triggered by fear or pain.

Anaphylaxis: A severe, rapid, multi-system allergic reaction treated first with intramuscular epinephrine.

Nitroglycerin: A vasodilator given 0.4 mg sublingually for angina, repeated every 5 minutes up to 3 doses if blood pressure allows.

INR: International normalized ratio: a measure of warfarin anticoagulation; normal is about 1, typical therapeutic is 2 to 3.

Direct oral anticoagulant: An anticoagulant such as apixaban, rivaroxaban or dabigatran that does not need INR monitoring.

Infective endocarditis prophylaxis: A single dose antibiotic, usually amoxicillin 2 g, before invasive dental care for highest risk cardiac patients.

Status epilepticus: A seizure of 5 minutes or more, or repeated seizures without recovery; a medical emergency.

Supine hypotensive syndrome: Drop in blood pressure in late pregnancy when the uterus compresses the inferior vena cava; relieved by tilting to the left.

Adrenal crisis: Acute adrenal insufficiency causing hypotension and collapse, which needs hydrocortisone and emergency care.

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