



## The Dialysis Emergencies OSCE

### Directions for OSCE Administration

1. **General Description:** Four 20-minute case scenarios, described by a script (see attached), and a set of checklist questions. The 4 scenarios/stations are:
  - a. Scenario 1: Air Embolism
  - b. Scenario 2: Blood Leak/Membrane Rupture
  - c. Scenario 3: Dialysis Membrane Reaction
  - d. Scenario 4: Hemolysis due to Chloramines
  
2. **Precepting Team:** Consists of a hemodialysis nurse (RN or LPN), a nephrology faculty physician, and a second year nephrology fellow (if available). Each team is assigned a single scenario to be given to each examinee. The OSCE coordinator (usually the program director or associate program director) directs the process, making sure that the scenarios begin and end on time.
  
3. **Site of Administration:** Optimally administered in a hemodialysis unit. The following props are required at each station:
  - a. Scenario 1: Single pass hemodialysis machine, set up to demonstrate air detector and air detector alarm.
  - b. Scenario 2: Single pass hemodialysis machine, set up to demonstrate venous pressure alarm, blood leak detector and alarm, and the dialysis effluent side of dialyzer. Dipsticks for hemoglobin detection may also be made available.
  - c. Scenario 3: No props required.
  - d. Scenario 4: Positive chloramine dipstick (may be obtained from tap water, or water with added bleach).
  
4. **Conduct of the OSCE/Grading:**
  - a. **Initiation of Scenario:** The examinee waits in a private office with a phone, and is called by the nurse preceptor, who begins the OSCE by presenting the scripted emergency, simulating the “real world” situation of an emergency call from the nurse dialyzing a patient.
  - b. **Grading:** The graded part of the test consists of a scenario-specific checklist that documents whether the examinee directs the nurse (with prompting, if necessary) to:
    - i) stop dialysis, ii) clamp the lines without returning the blood, and iii) recognizes that the

patient must be seen immediately (announces he/se will come to the dialysis unit).

**Failure to perform these 3 tasks, which are common to all the scenarios, results in failure for the scenario.** The fellow must correctly navigate 3 of the 4 scenarios to pass the OSCE. If the examinee fails the scenario, he/she is directed to the dialysis unit at the point of failure, where the preceptors discuss with him the rationale for the correct responses.

c. **Learning about the specific pathophysiology and clinical response to the scenario:** After/if the fellow indicates that he/she will come immediately to the dialysis unit, the nurse asks specifically if there are any other orders, and checks off those indicated by the fellow on a scenario-specific checklist. Once the fellow arrives in the dialysis unit, he/she is directed to the appropriate OSCE station. The preceptors ask additional scenario-specific questions (again contained on the checklist) regarding pathophysiology, clinical interventions, and dialysis machine specific alarms/safety features. Some to these will involve the props recommended above, including hands-on training to identify machine alarms and detectors. Answers are recorded and immediate formative feedback is given for correct and incorrect answers. It is an opportunity for the fellow to demonstrate knowledge and knowledge gaps about the scenario.

5. The OSCE should be performed at the mid-point or last quarter of the first year of fellowship. Fellows should be informed beforehand of the general OSCE topic, “Dialysis Emergencies”, and directed to read the chapter that discusses dialysis complications in the Handbook of Dialysis (Daugirdas, Blake & Ing).