Catheter Integrity Malfunction

BCRenal
Provincial Health Services Authority

Catheter integrity malfunction can include breaks or leaks on the catheter or transfer set.

A crack or tear in the PD catheter is less common and more difficult to manage. Sometimes the catheter can be shortened but this is a procedure that would only be undertaken by a PD nurse or nephrologist. In some circumstances, the catheter may need to be replaced. **The primary PD team or on-call nephrologist should be contacted urgently.** They may recommend a sterile temporary patch and delivery of intraperitoneal antibiotics or may request intravenous antibiotics.

- A soft toothed clamp (or forcep protected with 4x4 gauze) should be placed between the patients exit site and the catheter tear.

Cracks involving the transfer set or leaks at the connection site are more common and can be dealt with more easily. The patient should be treated as having a contamination and the transfer set should be changed. The patient should have a transfer set in their emergency kit. The primary PD unit should be notified.

Contamination

Related links:

- Performing a Twin Bag Exchange video & procedure
- Transfer Set Change video & procedure
- Collecting a Dialysate Effluent Specimen video & procedure (under development)

Contamination resulting from a break in technique is defined as either a wet contamination or dry contamination. Contamination at the time of a PD treatment can lead to peritonitis. Contamination occurs when sterile connections are exposed to pathogens either by touch or by air.

Contamination in the PD procedure is considered a wet contamination when a break in aseptic technique results in fluid flowing into or out of the transfer set. This may occur when the fluid filled tubing system is accidentally opened or unclamped.

- Examples:
  - Disconnection between the transfer set and the catheter at the connector
  - Leak or break in the in the transfer set or the catheter
  - Any time the twist clamp on the transfer set is not closed and fluid escapes
  - Leak in the CAPD or APD dialysate solution bags or tubing resulting in the possibility of contaminated fluid infused into the patient

Dry contamination occurs when:

- The sterile ends of the PD tubing come in contact with non-sterile surfaces. There has been no fluid flowing into or out of the transfer set during this break. Examples include:
- Exposed end of clamped transfer set is dropped
- Exposed end of clamped transfer set is touched by non-sterile surface such as hands, clothing, bed sheets, table etc.
- Disconnection of the minicap

A dry contamination can generally be managed by placing a new minicap on the end of the transfer set and allowing it to remain in place for 10 minutes.

A wet contamination may require:

- A transfer set change,
- Effluent sent for cell count, differential and culture
- Empiric dose of intraperitoneal antibiotics as per peritonitis pathway.
- Notification of PD unit for treatment direction