NORTHWEST Kidney Centers

Standing Orders for the Treatment of Peritoneal Access Exit Site Infection

1. DEFINITION

a. Purulent drainage from peritoneal exit site indicates the presence of infection. Erythema may or may not represent infection. Clinical judgment is required.
b. A tunnel infection may present as erythema, edema, or tenderness over the subcutaneous tract. All patients should be assessed for possible tunnel infection and peritonitis. If cuff is involved (pus squeezed out by compressing the cuff), it is a considered tunnel infection.

2. PATIENT INSTRUCTION

a. Notify NKC peritoneal staff of any purulent drainage, erythema or pain at the exit site, or any tenderness over the subcutaneous tract.
b. Perform exit site care twice daily while drainage is present. Use Gentamicin cream 0.1% topically with each exit site care.
c. The use of Betadine (povidone iodine) at the exit site is not recommended.

3. LAB REQUISITION

a. Gram stain, culture and sensitivity of any purulent drainage. (ICD10= 85.71XA)
b. Culture of erythematous exit site in the absence of drainage is not recommended. (ICD10= 85.71XA)

4. EMPIRIC ANTIBIOTIC TREATMENT (pending culture result)

a. Notify MD and obtain prescription for:
    i. Cephalexin 500 mg, PO twice daily for two weeks (28 tablets) or
    ii. Trimethoprim/sulfamethoxazole 80/400 mg (SS) PO daily for two weeks (14 tablets).
    iii. Note: the prescription must come from the MD's office. The PD nurse cannot call in prescription for the MD.
b. Modify therapy based on culture results.
c. Treat a minimum of two weeks or longer until exit site infection has resolved. (Three weeks is usually required for infections caused by P. aeruginosa.)

Patient Name_____ **NKC#**_____

5. SPECIFIC TREATMENT (when culture results known)

a. **Gram-positive Organism**

i. Obtain MD prescription for oral antibiotics:

1. Cephalexin 500 mg PO twice daily for a minimum of 14 days or longer until exit site infection has resolved, or:
2. Trimethoprim/sulfamethoxazole 80/400 mg (SS) PO daily for a minimum of 14 days or longer until exit site infection has resolved.

b. Adjust therapy based on culture results and sensitivities.
c. Continue twice daily exit site care.
d. Evaluate the exit site weekly until the infection has resolved.
e. For community acquired MRSA consider doxycycline 100 mg PO twice daily or clindamycin 300 mg PO three times daily vs. IP vancomycin.
f. In slowly resolving infections with S. aureus consider adding rifampin 600 mg PO daily. Please note that rifampin will reduce the levels of medications such as warfarin and anticonvulsants. The patient should be advised to contact the nephrologist for instructions if they are on any of these medications.

6. Gram-negative Organism (nonpseudomonas)

a. Obtain MD prescription for levofloxacin 500 mg PO on day 1 followed by 250 mg PO **every other day** x 14 days (7 doses total) or longer until exit site infection has resolved.
b. Adjust therapy based on culture results and sensitivities.
c. Continue twice daily exit site care.
d. Evaluate the exit site weekly until the infection has resolved.
e. Remind the patient not to take phosphate binders, antacids or milk with levofloxacin as this will decrease the absorption of the antibiotic. Administration of levofloxacin should be separated from these drugs by at least 2 hours with levofloxacin being administered first.

7. Pseudomonas

a. Obtain MD prescription for levofloxacin 500 mg PO on day 1 followed by 250 mg PO every other day x 21 days (10 doses total).
b. Adjust therapy based on culture results and sensitivities.
c. Continue twice daily exit site care.
d. Evaluate the exit site weekly until the infection has resolved.
e. Remind the patient not to take phosphate binders, antacids or milk with levofloxacin as this will decrease the absorption of the antibiotic. Administration of levofloxacin should be separated from these drugs by at least 2 hours with levofloxacin being administered first.

f. If resolution of the infection is slow or if there is recurrent Pseudomonas exit-site infection add ceftazidime 1 gram IP daily in long dwell (minimum 6 hours).
g. Catheter removal should be considered earlier for exit-site infections caused by P. aeruginosa not responding to therapy.

8. <u>RECURRENT EXIT SITE INFECTION</u> (recurrent infection within 30 days of completion of treatment)

a. Follow initial protocol.
b. Confirm that the patient is using Gentamicin cream 0.1% topically per protocol. (If Gentamicin allergic use Mupirocin cream.)
c. Assess for tunnel infection and peritonitis.
d. Consider prompt catheter removal for refractory cases.

9. <u>SPECIAL CONSIDERATIONS:</u>

a. The patient with an exit site infection that progresses to peritonitis, or who presents with an exit site infection in conjunction with peritonitis with the same organism will usually require catheter removal except in the case of coagulase negative staphylococcus which is usually responsive to antibiotic therapy.
b. If prolonged therapy (e.g. longer than 3 weeks) with appropriate antibiotics fails to resolve the infection, access replacement as a single procedure under antibiotic coverage can be considered and low volume, supine PD can be continued until the new access is ready for full volume treatment.
c. Consider fungal prophylaxis in patients at higher risk for fungal infections (immunosuppressed patients) or for prolonged or repeated use of antibiotics (>4 weeks). Use Fluconazole 200 mg PO first day then 100 mg PO every other day. Continue for one week after antibiotic therapy completed.

_____ _____
Physician Name (Please Print) RN Name (Please Print)

_____ _____ _____
Physician signature RN signature Date
(see referral sheet)

Addendum A

Common Antibiotics – Oral Dosing in PD for Exit-Site and Tunnel Infections

Amoxicillin	250–500 mg PO twice daily
Cephalexin	500 mg PO twice to three times daily
Ciprofloxacin	250 mg PO twice daily
Clarithromycin	500 mg PO loading dose, then 250 mg PO daily
Dicloxacillin	500 mg PO four times daily
Erythromycin	500 mg PO four times daily
Fluconazole	200 mg PO daily for 2 days, then 100 mg PO daily
Isoniazid	200–300 mg PO daily
Levofloxacin	500 mg PO first dose, then 250 mg PO every other day
Metronidazole	400 mg PO three times daily
Trimethoprim/sulfamethoxazole	80/400 mg PO daily

References:

Peritoneal Dialysis International, Vol. 30, pp 393-423, “Peritoneal Dialysis-Related Infections Recommendations: 2010 Update.”