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NEPHROLOGY PROGRAM
DEPARTMENT POLICIES AND PROCEDURES

Hemodialysis - Section 11- Auxiliary Hemodialysis Procedures - Neph 11-06
Hemodialysis for Treatment of Hypothermia
No.: 00747 (TOH Standardized Policy Number)

ISSUED BY:
Hemodialysis Clinical Practice / TOH Emergency Department

DATE OF APPROVAL:
N/A

APPROVED BY:
Program Clinical Director and Division Head

LAST REVIEW/REVISION DATE:
2016/05

CATEGORY:
Hemodialysis Auxiliary Procedures

IMPLEMENTATION DATE:
2004/11

PURPOSE:

- To utilize hemodialysis as an active internal re-warming technique for patients presenting with severe Hypothermia

BACKGROUND STATEMENTS:

1. Hypothermia will be defined as mild-moderate if core body temp > 30°C and severe if core body temperature is < 30°C

2. Hemodialysis will be the treatment of choice for patients presenting with core body temperatures of < 30°C who have a perfusable heart rhythm. Hemodialysis will be offered at the General and Civic campuses. For those patients with no perfusable heart rhythm, cardio-pulmonary bypass will be the treatment of choice in the Heart Institute at the Civic campus

3. The hypothermic heart is very sensitive to movement so excessive movement and rough handling are to be minimized to avoid precipitating arrhythmias

4. Cardiac medications may not be effective at body temperature < 30° C

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5. Coagulopathies are common as hypothermia inhibits the enzymes of the coagulation cascade

6. Acidosis is also common although care must be taken in interpretation of blood gases, as these are calibrated for normal body temperature

DEFINITION(S): N/A

ALERTS: N/A

PROCEDURE:

1. Ideally, Emergency will receive a 'patch' from EMS that a hypothermic patient is coming in

2. Upon admission to emergency, a rectal probe will be inserted and connected to a monitor for accurate temperature reading

3. If rectal temp < 30° C, ER staff will start the process to arrange hemodialysis ASAP in ER

4. For patients at Civic campus if temp < 28.0 ° C, plan to dialyze in CSU or CCU

5. The emergency physician will contact the Nephrologist on call. The Nephrologist will contact the dialysis unit to arrange for Hemodialysis

6. Emergency staff will coordinate the insertion of a 24 cm femoral hemodialysis catheter ASAP

7. Typical hemodialysis orders for the hypothermic patient are:

   - Optiflux 160 NRe
   - No heparin
   - Dialysate flow 800
   - Blood flow- max
   - K+ 4.0 (until blood work back)
   - Dialysate Temp 39.0° C
   - Na+ 140
   - Bicarb 36

8. Blood work

   - Pre Dialysis: CBC, INR, PTT, electrolytes, Urea, Cr, Ca, Phos, Mg, Alb, Ionized Ca, HBsAg
   - Q 1 hour: electrolytes, Ca, Phos, Mg, Alb, ionized Ca
   - Post Dialysis: CBC, INR, PTT, electrolytes, Urea, Cr, Ca, Phos, Mg, Alb, Ionized Ca

9. No weight loss

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10. Hemodialysis is to continue until Temp reaches 35° C (34° C if comatose)

DOCUMENTATION:

- Treatment to be documented as per policy Neph 8-2-5 (#00769) - Section C "Hemodialysis Session conducted outside the Hemodialysis Unit"
- A copy of the treatment record will be placed in the patient's chart

RELATED POLICIES / LEGISLATION:

1. Nephrology Policies and Procedures - Hemodialysis - Section 08 - Documentation - Neph 8-2-5 (#00769) Hemodialysis Nursing Documentation in NephroCare

REFERENCES:

1. Ali Owda, Sayed Osama, Hemodialysis in Management of Hypothermia, American Journal of Kidney Diseases, vol. 38, No 2 (August), 2001

2. J. van der Maten, G. Schrijver, Severe accidental hypothermia: rewarming with CVVHD, Netherlands Jounal of Medicine, 49 (1996), 160-163

3. Mechem, C. C. & Danzl, D. F. (2010) Accidental hypothermia in adults, UpToDate Online, www.uptodate.com retrieved August 17, 2010

COMMENTS / SIGNIFICANT REVISIONS: N/A

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