CLINICAL PATHWAY:

Management of Lead Toxicity

THIS PATHWAY SERVES AS A GUIDE AND DOES NOT REPLACE CLINICAL JUDGMENT.

Inclusion Criteria: asymptomatic patients with venous lead levels 45-70
Exclusion Criteria: symptomatic patients*, venous lead >70, venous lead <45

In Emergency Room
- Obtain venous lead (to Quest inpatient lab), I-STAT chem 10, CBC w diff, ALT/AST, Zinc protoporphyrin, UA, KUB
- Obtain careful history and physical to determine if symptomatic*
- Call on-call Lead physician to discuss admission

*** Signs/Symptoms of Lead Toxicity**
- **GI**: anorexia, constipation, abdominal pain, vomiting
- **CNS**: irritability (may be subtle), lethargy, change in sleep/behavior, HA, decreased play, ataxia, decreased coordination, vomiting
  - **Severe involvement**: seizures, coma, HTN, papilledema, cranial nerve paralysis

Lead < 45 and asymptomatic

Discharge:
- Notify PCP
- Notify Lead Program to arrange f/u for same week (on-call Lead physician listed in Intellidesk)

Lead 45-69 and asymptomatic

While still in ED:
- Obtain vitals, blood pressure and weight
- Careful physical
- When results available, call on-call Lead physician who will confirm appropriate pathway (listed in Intellidesk)

Admission:
- PHM or PCP w/Lead Team consult

Lead ≥ 70 or symptomatic at any lead level*

Notify on-call Lead physician (listed in Intellidesk)

Preparation for chelation:
- **Thorough history (document in chart):**
  - Absence of allergy to Succimer, EDTA, BAL and other chelating agents
  - Absence of pre-existing renal or hepatic disease
  - No treatment with other chelating agents in past 2-4 weeks (wait 2-4 wks between consecutive Succimer courses)
  - Exposure history (including parental occupational)
- **Review KUB:**
  - If lead in colon/rectum: no GI decontamination required
  - If lead in small intestine or stomach: GI decontamination
    - Polyethylene glycol 500 ml qhour x4 hours or until bowel movement
- **Stop any iron supplementation**

ANC ≥ 1200 LFTS WNL

Succimer:
10 mg/kg/dose TIDx5 days, then BIDx14 days for total of 19 days
Succimer only available in 100 mg caps; use dosing below:
- 8-15 kg: 100 mg (1 cap/dose)
- 16-23 kg: 200 mg (2 caps/dose)
- 24-34 kg: 300 mg (3 caps/dose)
- 35-44 kg: 400 mg (4 caps/dose)
- >45 kg: 500 mg (5 caps/dose)

Monitoring:
- Urine Specific Gravity q shift
  - If >1.015, start maintenance IVF
- BP q4hr, neuro check q4hr

DAY 3 Labs:
- Venous lead**, CBC w diff, AST, ALT, BUN, Creatinine

Labs abnormal OR ANC <1200

Labs WNL & ANC ≥ 1200

Discharge Criteria/Instructions
- Normal labs (day 3 for PO, day 5 for IV chelation)
- If required, ensure discharge chelation medication (Succimer) delivered to bedside
- Health Department identified lead safe environment for child
- CCMC Lead Program appointment confirmed

ANC < 1200 LFTS WNL

- Ensure urine spec grav <1.020
- Obtain calcium + phosphorous if not done

$CaNa_2EDTA$:
250mg/m^2/dose IV q6hr x5 days
(dose administered over 4-5 hrs)

Monitoring:
- Daily Urinalysis
- Urine Specific Gravity q shift
  - If >1.015, start maintenance IVF
- BP q4hr, neuro check q4hr
- Continuous CV monitoring during infusion
- PIV site: infiltration can cause sloughing

If hypotension, arrhythmias, infiltration, hematuria, proteinuria, call on-call lead physician ASAP.

Day 3 Labs (two hours after EDTA):
- Chem 10, CBC w diff, AST, ALT
- If normal, continue IV chelation

Day 5 Labs (two hours after EDTA):
- Venous lead**, ZPP, chem 10,
- CBC w diff, AST, ALT

****Venous Lead Instructions:**
- Venous lead to be drawn in a tan or lavender top tube
- Place order as miscellaneous and write in "Venous lead; send to Rocky Hill State Lab"
- Notify HH Specimen Processing that sample will need to be sent by courier

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