Guideline: Pediatric Lead Toxicity Evaluation and Management, Inpatient/Outpatient

Last updated: 4/23/2021

Clinical algorithm:

Patient presents with signs and symptoms of lead toxicity

For PCP Management see:
PCP Management of Lead Toxicity

For ED Management see:
ED Management of Lead Toxicity

For inpatient management see:
Inpatient Management of Lead Toxicity
Clinical guideline summary

CLINICAL GUIDELINE NAME: Pediatric Lead Toxicity Evaluation and Management

PATIENT POPULATION AND DIAGNOSIS: Patients <18 years old

APPLICABLE TO: Helen DeVos Children’s Hospital and SHMG Offices

BRIEF DESCRIPTION: Guideline for management of elevated lead levels in children < 18 years old.

TEAM LEADER(S): Jeri Kessenich & Brad Riley

OWNING EXPERT IMPROVEMENT TEAM (EIT): Pediatric Clinical Practice Guideline Group

MANAGING CLINICAL PRACTICE COUNCIL (CPC): Children’s Health CPC

CPC APPROVAL DATE: 6/17/2021

OTHER TEAM(S) IMPACTED (Example: other CPCs, anesthesia, nursing, radiology, etc.): Nursing, Lab, MSW

IMPLEMENTATION DATE: 6/18/2021

LAST REVISED: 4/23/2021

FOR MORE INFORMATION, CONTACT: Jeri Kessenich
Clinical pathways clinical approach

TREATMENT AND MANAGEMENT:

PCP Management of Lead Toxicity

PCP MANAGEMENT OF PATIENTS WITH ELEVATED
LEAD LEVELS AT HDVCH

IF CAPILLARY BLL >5MCG/DL, CONFIRM WITH
STAT VENOUS BLOOD LEAD LEVEL

vBLL ≤ 44 mcg/dL

- Outpatient management with
  environmental & nutritional interventions.
  No indication for chelation therapy.

  - Notify Kent County or the local Health
    Department for BLL>20
    KCHD Lead Clerk:
    616-632-7063
    AND
    Fax Lab Results to: 616-632-7015

  - Notify Toxicology for BLL >30

  - Ensure removal from lead containing
    environment

  - Consider Early On referral/
    Neurodevelopmental/Intermediate School
    District referral

vBLL 45-69 mcg/dL

- Most patients will require inpatient
  management for oral chelation therapy.
  Many admissions will be primarily to:
  - Ensure access to medication: Provide
    prescription & identify pharmacy able to
    fill it
  - Ensure medication tolerance &
    compliance
  - Ensure close PCP follow up
  - Ensure safe alternative housing

  D/c from ED would be rare unless ALL of
  the above parameters can be met.

  - Note: All symptomatic patients will require
    admission

  - Contact Transfer Center to arrange Direct
    Admission to Hospitalist team
    (616-391-2345)

  - Hospitalist to place Toxicology consult to
    initiate oral chelation therapy with succimer
    (DMSA)

vBLL ≥ 70 mcg/dL

- All patients require inpatient management
  for initiation of chelation therapy.

  - Send patient to HDVCH ED if concerns for
    encephalopathy or unstable
    OR
    Contact Transfer Center to arrange
    Direct Admission
    (616-391-2345)

  - Toxicology to determine route (oral succimer
    vs IV calcium EDTA/IM BAL).

Post discharge:

- Ensure removal from lead containing environment
- Monitor BLLs per discharge recommendations
- Consider MVI+Fe
- Consider Early On/ Neurodevelopmental/Intermediate School District referral
ED MANAGEMENT OF PATIENTS WITH ELEVATED LEAD LEVELS AT HDVCH

IF CAPILLARY BLL >5MCG/DL, CONFIRM WITH STAT VENOUS BLOOD LEAD LEVEL

vBLL ≤ 44 mcg/dL
Outpatient management with environmental & nutritional interventions. No indication for chelation therapy.
Notify Kent County or the local Health Department for BLL>20
KCHD Lead Clerk: 616-632-7063
AND
Fax Lab Results to: 616-632-7015
Ensure removal from lead containing environment
Consider Early On referral/ Neurodevelopmental/Intermediate School District referral

vBLL 45-69 mcg/dL
Most patients will require inpatient management for oral chelation therapy. Many admissions will be primarily to:
• Ensure access to medication: Provide prescription & identify pharmacy able to fill it
• Ensure medication tolerance & compliance
• Ensure close PCP follow up
• Ensure safe alternative housing
D/c from ED would be rare unless ALL of the above parameters can be met.
Note: All symptomatic patients will require admission
Obtain CBC & CMP
Consult toxicology to verify need for admission and to initiate oral chelation therapy with succimer (DMSA)

vBLL ≥ 70 mcg/dL
All patients require inpatient management for initiation of chelation therapy.
Note: Consider PICU for encephalopathic patients
Obtain CBC & CMP
Consult toxicology to determine route (oral succimer vs IV calcium EDTA/IM BAL).
Notify Intensivist/Hospitalist for admission

IF admission is required:
Notify Hospitalist

IF admission is NOT required:
• Notify MSW, PCP, & Kent County or the local Health Department to aid in safe discharge planning
• Provide the following info to KCHD contacts below: Patient/Parent Name, Address, Contact Info, PCP, Lead Level, Treatment Plan & Hospital Contact (MSW or NCM)
KCHD Lead Clerk: 616-632-7063
AND
Fax Lab Results to: 616-632-7015
Inpatient Management of Lead Toxicity

INPATIENT MANAGEMENT OF PATIENTS WITH ELEVATED LEAD LEVELS AT HDVCH

CONFIRM VENOUS BLOOD LEAD LEVELS

vBLL 45-69 mcg/dL

Most patients will require inpatient management for oral chelation therapy. Many admissions will be primarily to:
- Ensure access to medication: Provide prescription & identify pharmacy able to fill it
- Ensure medication tolerance & compliance
- Ensure close PCP follow up
- Ensure safe alternative housing

Note: All symptomatic patients will require admission

Order CBC & CMP

Consult toxicology to initiate oral chelation therapy with succimer (DMSA)

Consider KUB IF witnessed ingestion with whole bowel irrigation as treatment if evidence of lead containing densities on radiograph

Notify MSW to aid in safe discharge planning

Provide the following information to the Kent County or the local Health Department:
Patient/Parent Name, Address, Contact Info, PCP, Lead Level, Treatment Plan & Hospital Contact (MSW or NCM)

KCHD Lead Clerk:
616-632-7063

Lead Nurse Case Manager:
616-632-7087

AND

Fax Lab Results to: 616-632-7015

Ensure removal from lead containing environment

Establish timeline for subsequent venous BLL lab draws, confirm PCP f/u appointment, & notify office prior to discharge

Consider MVI+Fe

Consider Early On/ Neurodevelopmental/Intermediate School District referral

vBLL ≥ 70 mcg/dL

All patients require inpatient management for initiation of chelation therapy.

Note: Consider PICU for encephalopathic patients

Order CBC & CMP

Consider CT head if encephalopathy is present

Consult toxicology to determine route (oral succimer vs IV calcium EDTA/IM BAL).
References: