

Physician Guidelines – Childhood Lead Poisoning Prevention

The following information and flowcharts have been prepared by the Iowa Department of Public Health as guidelines that are to be followed by physicians and medical providers in Iowa as they seek to care for children 6 years of age and younger and their families in the prevention of childhood lead poisoning. Additional background information on childhood lead poisoning prevention can be found at the following webpages:

- Iowa Lead Poisoning Prevention Program: <https://idph.iowa.gov/lpp>
- Center for Disease Control: <https://www.cdc.gov/nceh/lead/>

The charts and their purposes on the following pages are:

1. Childhood Lead Poisoning Risk Questionnaire – this questionnaire is to be used to determine the risk classification (low-risk or high-risk) of the child which in turn specifies the child's testing schedule.
2. Iowa Basic Lead Testing Chart – this chart outlines the testing schedule for children with low- and high- risk to lead poisoning. Nationally, Iowa housing ranks in the top ten in the number of homes built prior to 1950. Therefore, the majority of children in Iowa will be tested according to the high-risk testing schedule.
3. Schedule for Obtaining Confirmatory Venipunctures – this chart gives the time-frame for scheduling a child for confirmatory venous testing after receiving an elevated capillary test result equal to or greater than 10 micrograms per deciliter.
4. The charts on pages 5 to 8 give the management protocol for ranges of blood lead test results.
5. Timelines for Medical Follow-Up, Home Nursing Visit, Developmental Follow-Up, and Nutritional Follow-Up – these charts summarize the health follow-up for children with various venous blood lead levels.
6. Timelines for Environmental Follow-Up – this chart gives the timeframe for conducting an environmental inspection for lead sources when blood lead levels are within the ranges identified. Environmental inspections for lead are conducted by lead certified state or local childhood lead poisoning prevention program personnel.

Please contact the Iowa Department of Public Health at (800) 972-2026 if you have any questions with any part of these guidelines.

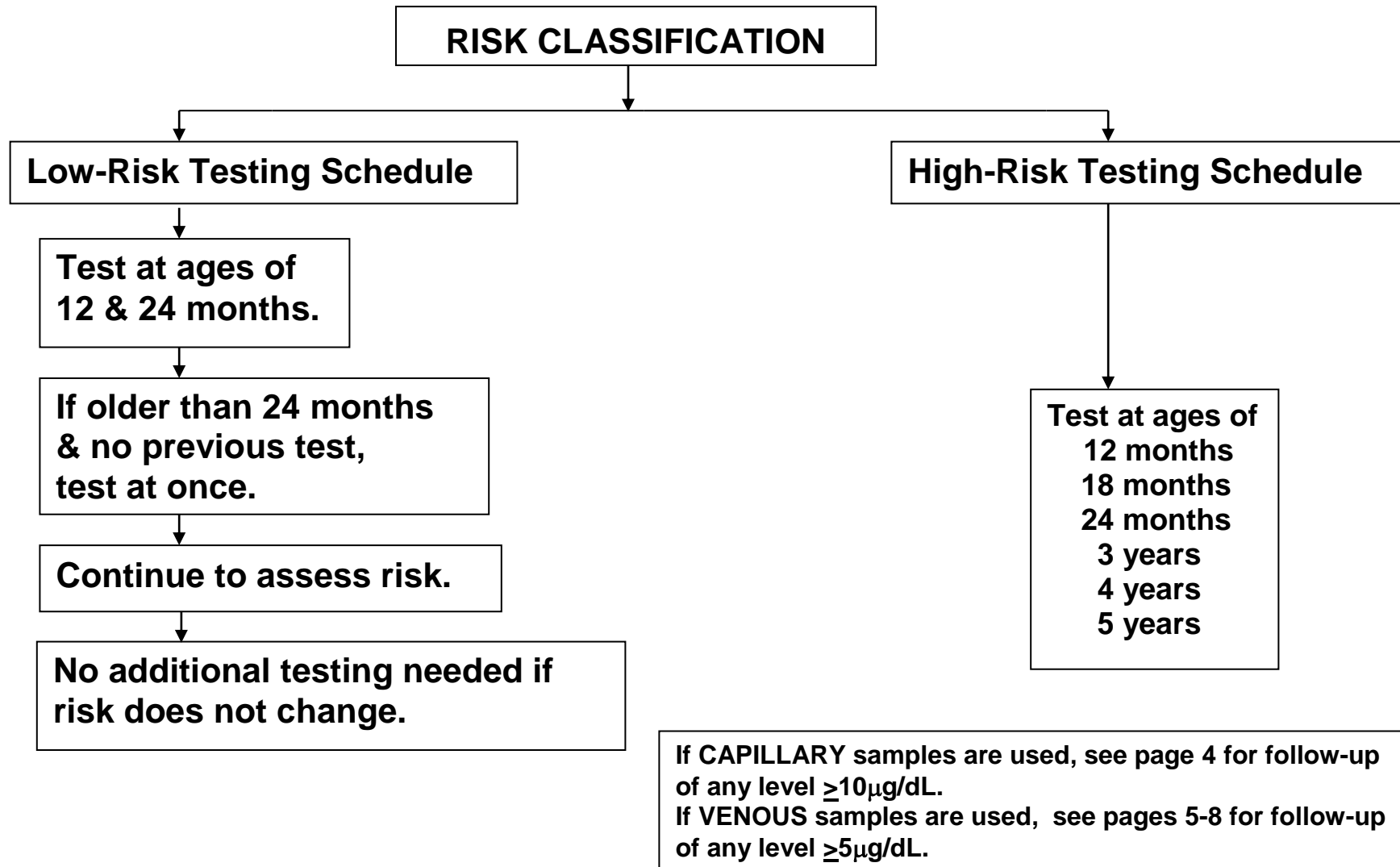
Childhood Lead Poisoning Risk Questionnaire

The following questions can be used to determine the general risk of lead poisoning for children. These questions are to be used by the medical provider to determine the schedule of blood lead testing for the child as outlined on the Blood Lead Testing Chart. These questions are not to be used by the physician to exempt a child from blood lead testing – this formal exemption is only provided by the Iowa Department of Public Health.

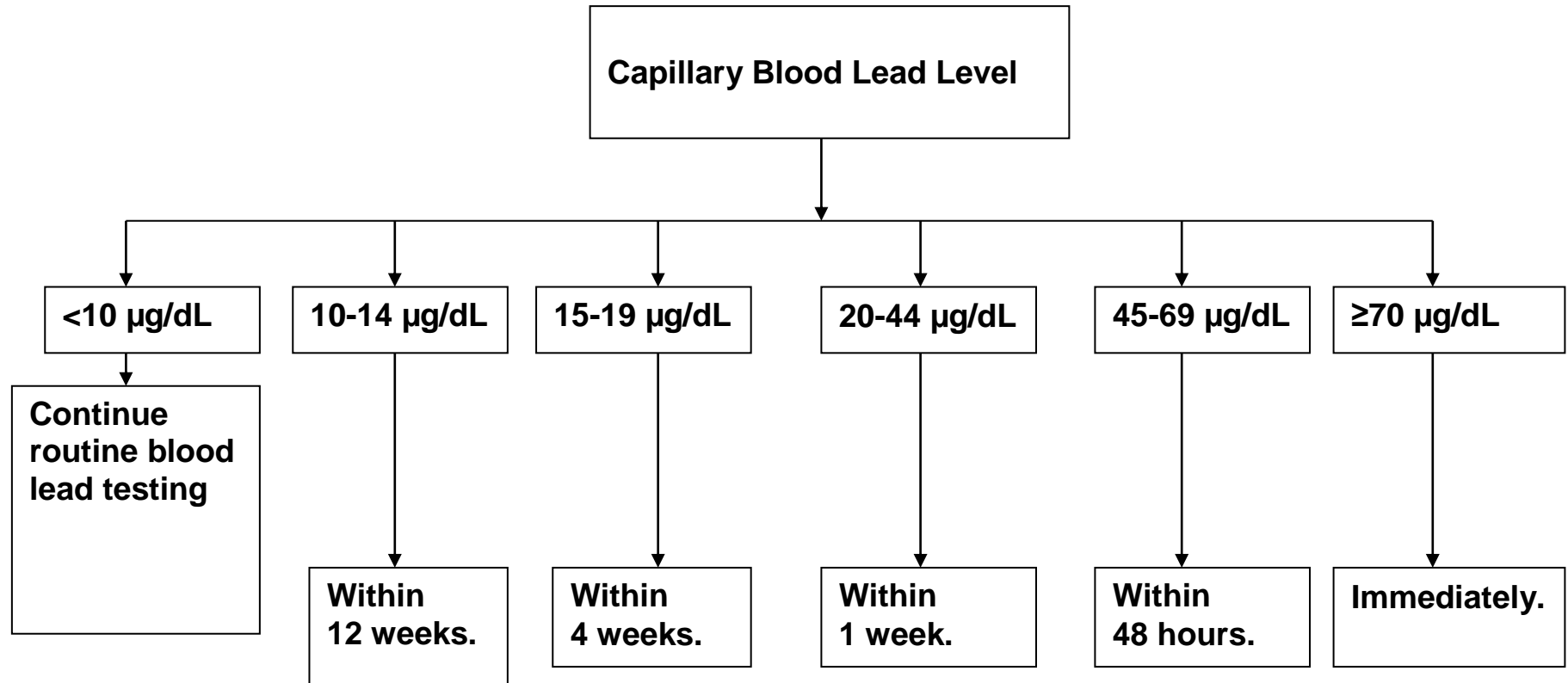
If the answer to any question is “Yes,” then the child is at high-risk for lead poisoning and must be tested according to the high-risk testing schedule. If the parent does not know the answer to a question, assume that the answer is “Yes.” If the child is at low-risk for lead poisoning, test according to the low-risk testing schedule.

1. Has your child **ever** lived in or regularly visited a house built before 1960? (Examples: home, day-care center, baby-sitter, relative’s home) ___Yes ___No
2. Have you noticed any peeling or chipping paint in or around the pre-1960 house that your child has lived in or regularly visited? ___Yes ___No
3. Is the pre-1960 home that your child has lived in or regularly visited been remodeled or renovated by: A. Stripping, sanding, or scraping paint on the inside or outside of the house; B. Removing walls and/or tearing out lath and plaster. ___Yes ___No
4. Does your child eat non-food items such as dirt? ___Yes ___No
5. Have any of your other children or their playmates had lead levels $\geq 15 \mu\text{g/dL}$? ___Yes ___No
6. Does your child live with or frequently come in contact with an adult who works with lead on the job or in a hobby? (Examples: painter, welder, foundry worker, old home renovator, shooting range worker, battery plant worker, battery recycling worker, ceramics worker, stained glass worker, sheet metal worker, scrap metal worker, plumber) ___Yes ___No
7. Does your child live near a battery plant, battery recycling plant, or lead smelter? ___Yes ___No
8. Do you give your child any home or folk remedies? (Ex: Azarcon, greta, pay-loo-ah) ___Yes ___No
9. Does your child eat candy that is produced in Mexico, Central America or Southeast Asia? ___Yes ___No
10. Has your child ever lived in Mexico, Central America, South America, Africa, Asia, or Eastern Europe, or visited one of these areas for a period longer than two months? ___Yes ___No

IOWA BASIC LEAD TESTING CHART (Based on Risk and Age)



SCHEDULE FOR OBTAINING CONFIRMATORY VENIPUNCTURES



If venous level <10 µg/dL, return to regular screening schedule.
 If venous level 10-14 µg/dL, follow chart for levels of 10-14 µg/dL.
 If venous level 15-19 µg/dL, follow charts for levels of 15-19 µg/dL.
 If venous level ≥20 µg/dL, follow chart for levels ≥20 µg/dL

BLOOD LEAD LEVELS (5-9 $\mu\text{g}/\text{dL}$)

Continue routine blood lead testing.

**Education about lead poisoning,
importance of good nutrition and
good housekeeping**

If any capillary retest is greater than or equal to 10 $\mu\text{g}/\text{dL}$, follow confirmatory venipuncture schedule.

If any venous retest is greater than or equal to 10 $\mu\text{g}/\text{dL}$, follow charts for confirmed venous levels.

FOLLOW-UP OF ELEVATED VENOUS BLOOD LEAD LEVELS (10-14 $\mu\text{g}/\text{dL}$)

Retest every 12 weeks.

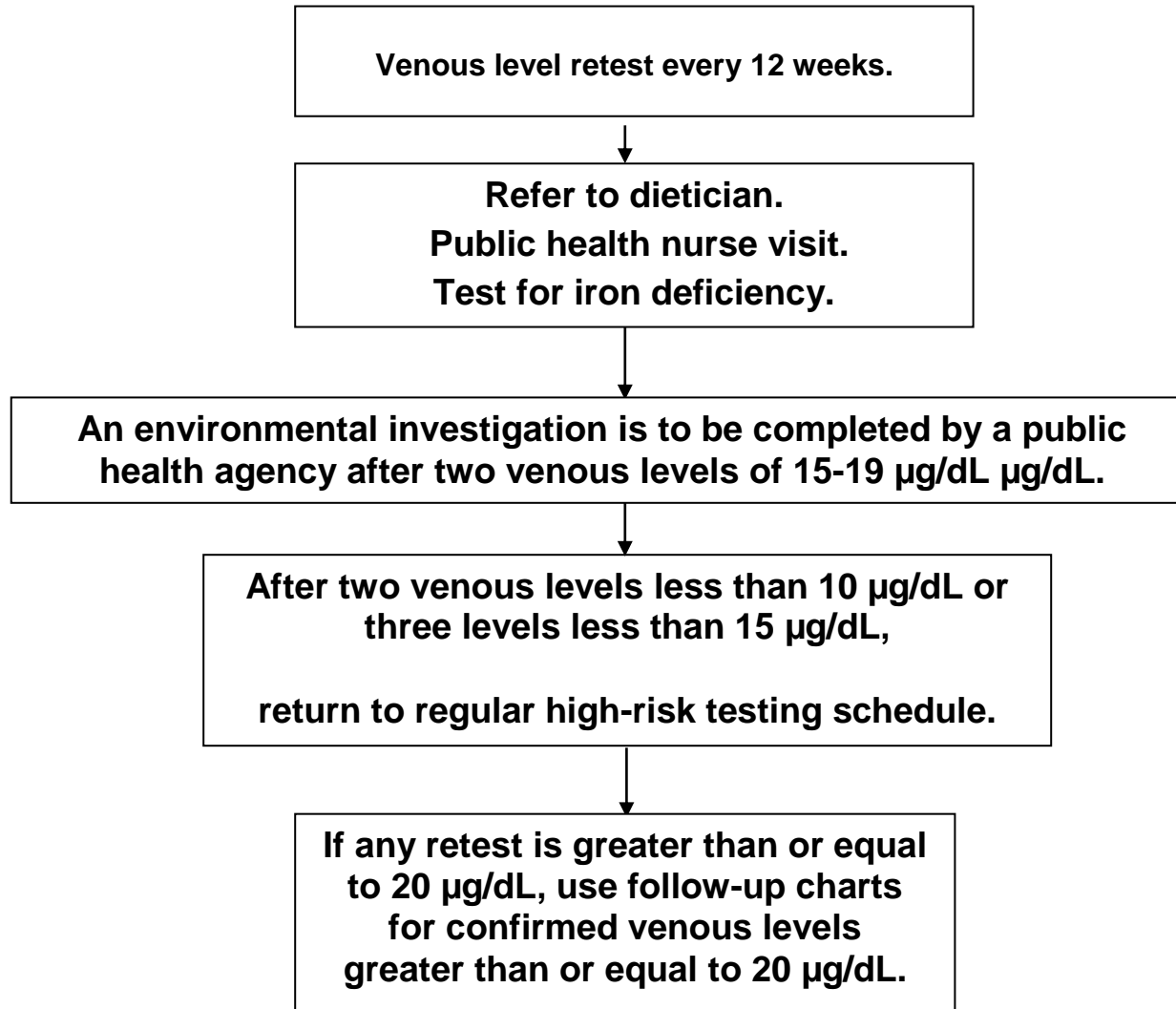
Provide information to family about
lead poisoning, importance of good
nutrition and good housekeeping.
Test for iron deficiency

After two levels less than 10 $\mu\text{g}/\text{dL}$
or
three levels less than 15 $\mu\text{g}/\text{dL}$,
return to regular high-risk
testing schedule.

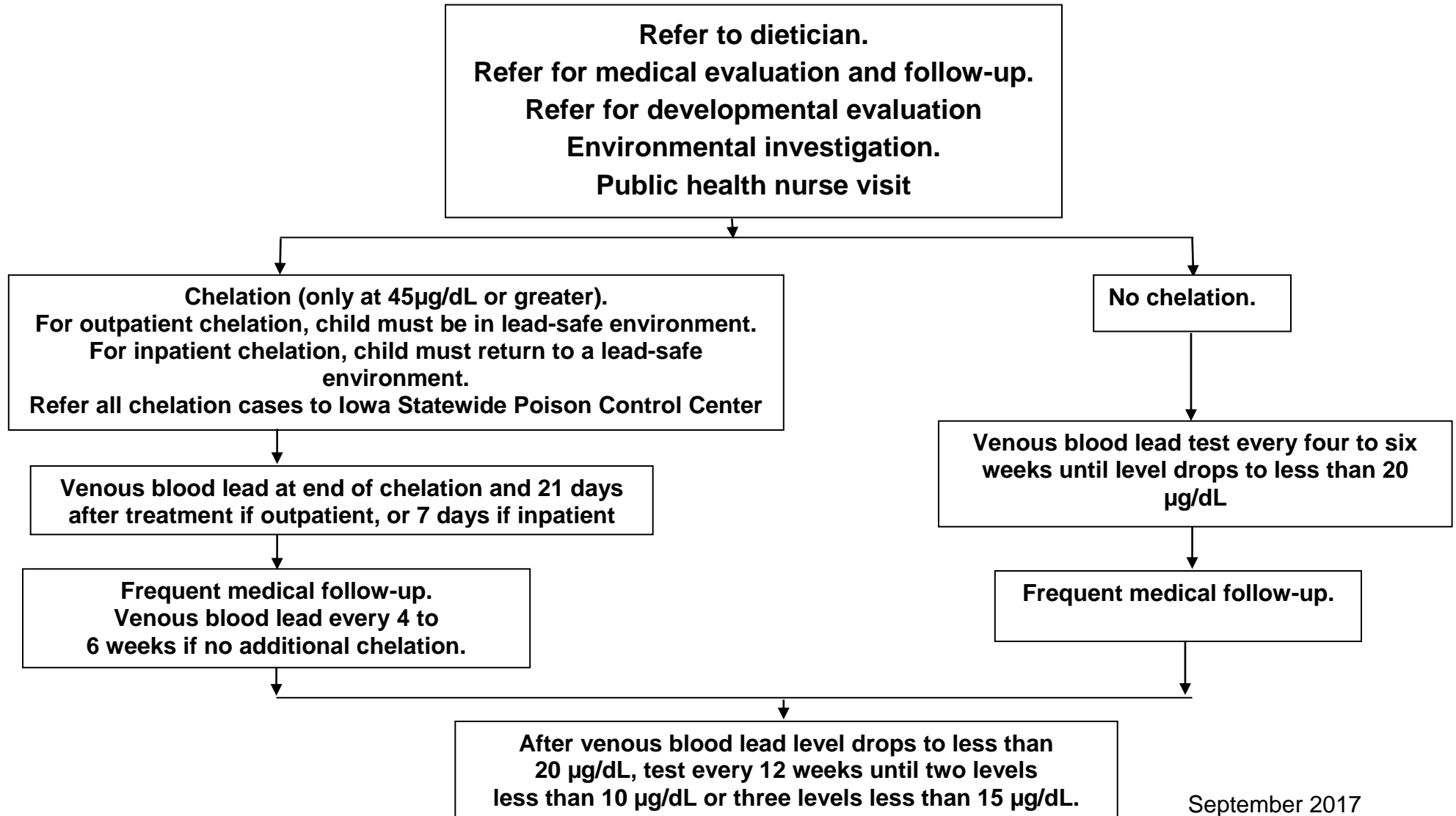
If any capillary retest is greater than or equal to 15 $\mu\text{g}/\text{dL}$, follow confirmatory venipuncture schedule.

If any venous retest is greater than or equal to 10 $\mu\text{g}/\text{dL}$, follow charts for confirmed venous levels.

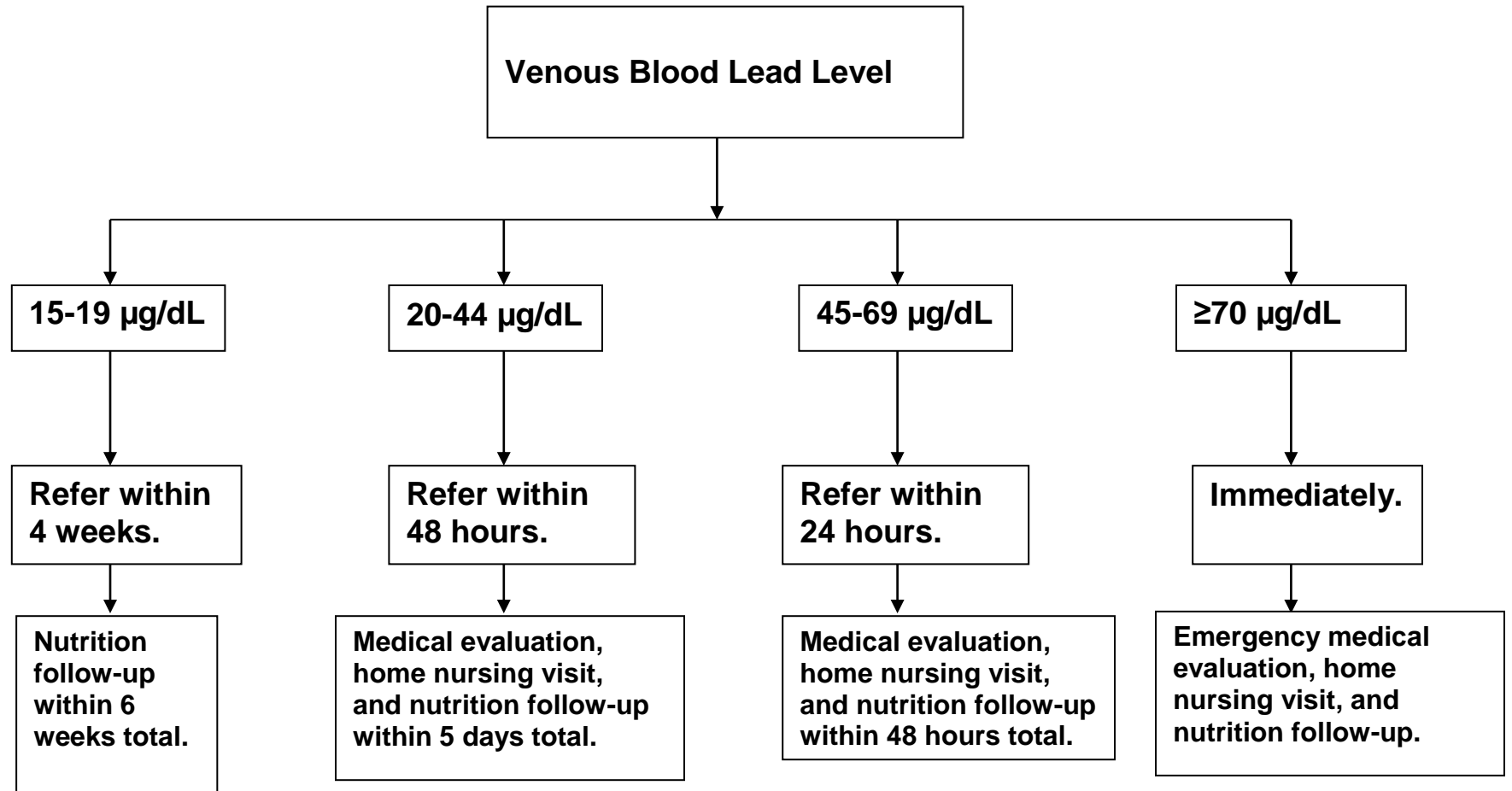
FOLLOW-UP OF ELEVATED VENOUS BLOOD LEAD LEVELS (15-19 $\mu\text{g}/\text{dL}$)



FOLLOW-UP OF ELEVATED VENOUS BLOOD LEAD LEVELS (Greater than or equal to 20 µg/dL)

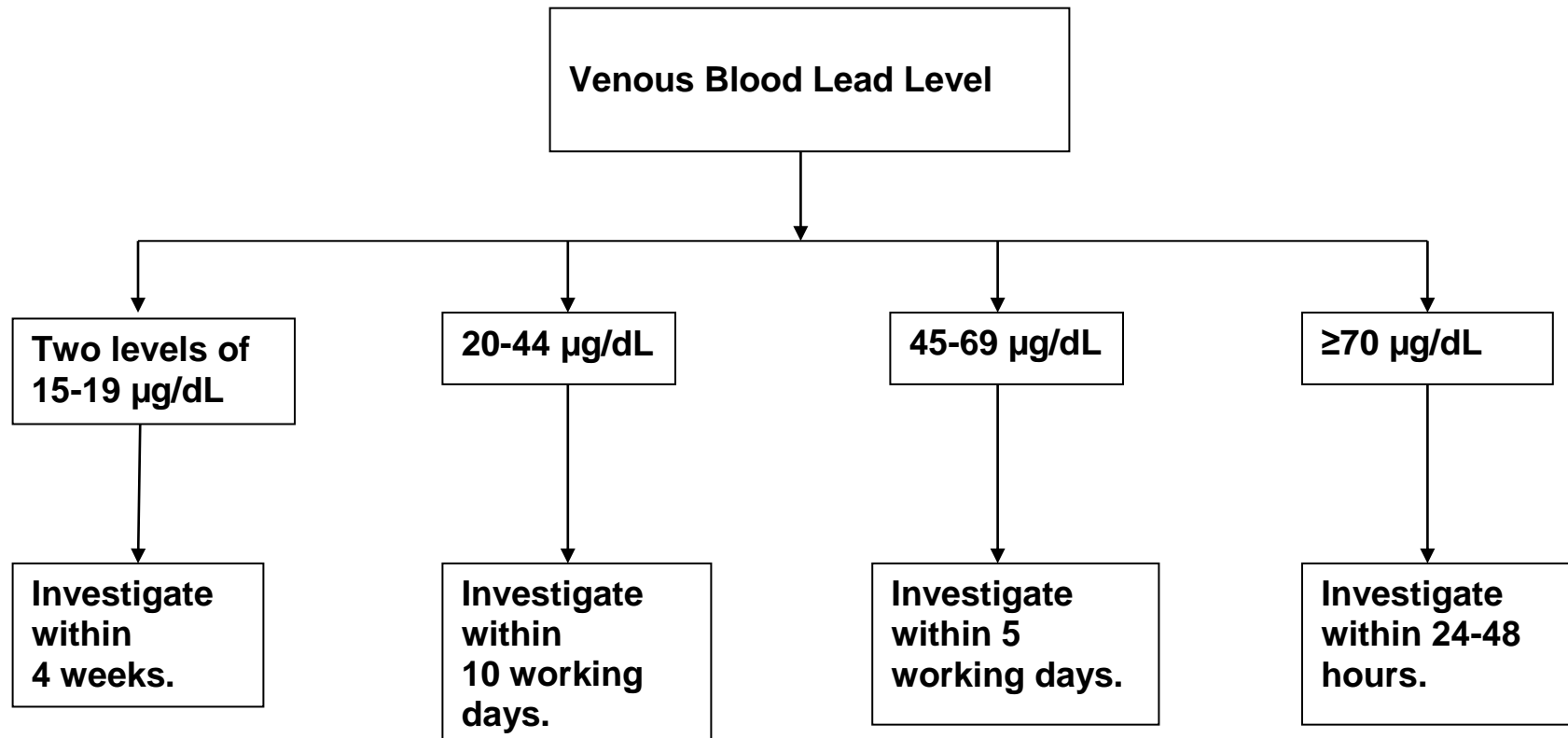


TIMELINES FOR MEDICAL FOLLOW-UP, HOME NURSING VISIT, DEVELOPMENTAL FOLLOW-UP,* AND NUTRITIONAL FOLLOW-UP



*Note that developmental evaluation is expected only for children with venous blood lead levels greater than or equal to 20 µg/dL.

TIMELINES FOR ENVIRONMENTAL FOLLOW-UP



GUIDELINES FOR DETECTION AND MANAGEMENT OF ASYMPTOMATIC LEAD-POISONED CHILDREN

For Physicians and Health Care Providers

BLOOD LEAD LEVEL in $\mu\text{g/dL}$ (micrograms per deciliter)	TREATMENT	COMMENT
<5 $\mu\text{g/dL}$ capillary or venous	<ul style="list-style-type: none"> Continue routine blood lead testing. (See Iowa Basic Lead Testing Chart) 	<ul style="list-style-type: none"> Child does not have abnormal lead level
5–9 $\mu\text{g/dL}$ (capillary or venous)	<ul style="list-style-type: none"> Continue routine blood lead testing. (See Iowa Basic Lead Testing Chart) 	<ul style="list-style-type: none"> Child has elevated blood lead, routine testing recommended
$\geq 10 \mu\text{g/dL}$ (capillary)	<ul style="list-style-type: none"> Order venous blood lead level. 	<ul style="list-style-type: none"> Further action based on venous blood lead level.
10–14 $\mu\text{g/dL}$ (venous)	<ul style="list-style-type: none"> Capillary or venous retest within three months (12 weeks). Test for iron deficiency using hematocrit or hemoglobin. 	<ul style="list-style-type: none"> Provide information to family regarding lead poisoning, importance of good nutrition, and housekeeping.
15–19 $\mu\text{g/dL}$ (venous)	<ul style="list-style-type: none"> Venous retest in 3 months (12 weeks). Test for iron deficiency using hematocrit or hemoglobin. 	<ul style="list-style-type: none"> Refer to dietician for nutrition evaluation. Refer for public health nursing visit. Environmental investigation by public health agency after 2 venous levels of 15-19 $\mu\text{g/dL}$.
20–44 $\mu\text{g/dL}$ (venous)	<ul style="list-style-type: none"> Pediatric evaluation. Venous retest in 4 to 6 weeks. Test for iron deficiency using serum iron and iron binding capacity or serum ferritin. 	<ul style="list-style-type: none"> Refer to dietician for nutrition evaluation. Refer for public health nursing visit. Environmental investigation by public health agency.
45–69 $\mu\text{g/dL}$ (venous)	<ul style="list-style-type: none"> Pediatric evaluation. Test for iron deficiency using serum iron and iron binding capacity or serum ferritin. Inpatient or outpatient chelation*. Venous retest before chelation, at the end of chelation, and 21 days after chelation. 	<ul style="list-style-type: none"> Refer to dietician for nutrition evaluation. Refer for public health nursing visit. Environmental investigation by public health agency and must verify that home is lead-safe before child can return home.
$\geq 70 \mu\text{g/dL}$ (venous) MEDICAL EMERGENCY!!	<ul style="list-style-type: none"> Pediatric evaluation. Test for iron deficiency using serum iron and iron binding capacity or serum ferritin. Inpatient chelation*. Venous retest before chelation, at the end of chelation, and 7 days after chelation. 	<ul style="list-style-type: none"> Refer to dietician for nutrition evaluation. Refer for public health nursing visit. Environmental investigation by public health agency and must verify that home is lead-safe before child can return home.

*For detailed recommendations regarding chelation, contact the Iowa Statewide Poison Control Center at 1-800-222-1222. Rev. 9/2017