Recommended Lipid Screening

- **2-8 years if:**

  (a) FHx of early CAD (<55 yrs in males, <65 yrs in females)

  (b) Parent with TC >240 mg/dL or known dyslipidemia

  (c) Child has DM, HTN, BMI >95th %$^{-ile}$, smokes cigarettes, or has a moderate/high risk medical condition*

- **9-11 years: universal screening**
- **12-16 years if:** (a)-(c), including those with BMI ≥85th %$^{-ile}$
- **17-21 years: universal screening**

****Moderaterisk conditions:** KD with regressed coronaries, chronic inflammatory disease, HIV, nephrotic syndrome*

***Highrisk conditions:** DM1&2, CKD/ESRD, kidney/heart TX, KD with current aneurysms*

Recommended Cut Points for Lipid Levels for Children and Adolescents**

Category	Acceptable	Borderline	High
TC	<170	170-199	≥200
LDL-C	<110	110-129	≥130
TG			
0-9 years	<75	75-99	≥100
10-19 years	<90	90-129	≥130
Non-HDL-C	<120	120-144	≥145

Category	Acceptable	Borderline	Low
HDL-C	>45	40-45	<40

***Values given in mg/dL*

Recommended Cut Points for Lipid Levels for Young Adults**

Category	Acceptable	Borderline	High
TC	<190	190-224	≥225
LDL-C	<120	120-159	≥160
TG	<115	115-149	≥150
Non-HDL-C	<150	150-189	≥190

Category	Acceptable	Borderline	Low
HDL-C	>45	40-44	<40

***Values given in mg/dL*

Borderline levels can be managed by PCP with lifestyle modifications and a nutritionist and/or weight management team if obesity related.

High levels should have repeat fasting measurements before referring to Preventive Cardiology.

Lifestyle modifications include

- **TG:** increase in complex carbohydrates and decrease in sugary beverages, increase in exercise/physical activity
- **LDL:** decrease in saturated fats and processed foods
- **HDL:** increase healthy fats and physical activity

UPMC | CHILDREN'S HOSPITAL OF PITTSBURGH

UPMC Children's Hospital of Pittsburgh
Address
City, PA XXXXX
Phone: XXX-XXX-XXXX

To consult with Preventive Cardiology or refer a patient, please call **412-692-5540**.

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Pediatric Preventive Cardiology Reference

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Pediatric Preventive Cardiology Reference

The Preventive Cardiology program at UPMC Children's Hospital of Pittsburgh aims to manage children at greatest risk for accelerated atherosclerosis. With the pediatrician, the program will help formulate a plan for managing children with dyslipidemia and elevated blood pressure or hypertension.

Brenda Mendizabal, MD, MS
Director, Preventive Cardiology
Heart Institute
UPMC Children's Hospital
of Pittsburgh

Blood Pressure Screening

Definition of Pediatric HTN

Age (yrs)	Normal	Elevated	Stage 1	Stage 2
1-13	< 90th %$^{-ile}$	≥ 90th %$^{-ile}$ to < 95th %$^{-ile}$ or 120/80 to < 95th %$^{-ile}$	≥ 95th %$^{-ile}$ to < 95th %$^{-ile}$ + 12 mmHg or 130/80 to 139/89	≥ 95th %$^{-ile}$ + 12 mmHg or ≥ 140/90
≥ 13	<120/<80	120/<80 to 129/<80	130/80 to 139/89	≥ 140/90

Auscultatory-confirmed BP ≥ 95th %$^{-ile}$ (≥ 130/80) at **3 different visits**

Screening BP Values Requiring Further Evaluation†

Age (yrs)	BP (mmHg)			
	Boys		Girls	
	SBP	DBP	SBP	DBP
5	103	63	104	64
6	105	66	105	67
7	106	68	106	68
8	107	69	107	69
9	107	70	108	71
10	108	72	109	72
11	110	74	111	74
12	113	75	114	75
≥13	120	80	120	80

†Based on 90th %$^{-ile}$ BP for age/sex for children at the 5th %$^{-ile}$ of Ht; >99% NPV.

If a patient has high BP in your office, give lifestyle modifications AND...

- Repeat accurately and manually (assure correct cuff size, arm/back/legs supported, etc.)
- If "elevated BP", repeat BP in 6 mos; if still high, obtain UE/LE BP* and repeat in 1 year, then refer to Preventive Cardiology if still high
- If Stage 1 HTN, repeat BP in 2 weeks; if still high, obtain UE/LE BP* and repeat in 3 months, then refer to Preventive Cardiology if still high
- If Stage 2 HTN, obtain UE/LE BP* and refer to PrevC (to be seen within 1–2 weeks)

**Concern for Coarctation if UE BP higher than LE BP by >20 mmHg*

Lifestyle modifications include

- **DASH style diet** – refer them to dashdiet.org
- **Moderate to vigorous physical activity** 3–5 days/week (30–60 min per session)

Referrals

Who should pediatricians refer to Preventive Cardiology at UPMC Children's Hospital?

- Any patient at high risk for early CAD
  - Patients with elevated BPs
    - Rule out secondary HTN
    - Rule out white coat HTN
    - Assess for target organ damage (i.e., LVH)
- Patients with dyslipidemias
  - Management of FH
  - Management of CDO (combined dyslipidemia of obesity)
  - Management of other dyslipidemias
- Patients with CHD at risk for early CAD
  - Initiate TLC
  - Workup to assess for other CV risk factors
- High risk conditions
  - DM (type I or II), heart transplant, KD with aneurysms, Williams syndrome, Turner syndrome
  - Family history of significantly early CAD or elevated Lp(a)
  - Initiation and monitoring of drug Rx as needed
- High risk obese patients with multiple comorbidities including dyslipidemias, elevated BPs (including WCH), insulin resistance, NAFLD, OSA, etc.

To consult with Preventive Cardiology or refer a patient, please call 412-692-5540.