



HYPERTENSION IN CHILDREN

Hypertension in children means persistently elevated blood pressure (BP) above normal for a child's **age, sex, and height percentile.**



Early detection today for a healthy heart tomorrow!



WHAT COUNTS AS HYPERTENSION?

Blood pressure is interpreted using percentiles.

NORMAL	< 90th percentile
ELEVATED BP	90th – 95th percentile
HYPERTENSION	≥ 95th percentile (on 3 separate occasions)



STAGE 1

95th percentile to
< 95th percentile + 12 mmHg



STAGE 2

≥ 95th percentile + 12 mmHg



For adolescents (≥13 years), adult cutoffs are often used (≥130/80 mmHg).



SYMPTOMS

Most children are asymptomatic.
Severe cases may show:



Headache



Dizziness



Vision problems



Nosebleeds



Irritability



Seizures
(in hypertensive crisis)



High blood pressure can be silent but still damage organs.



EVALUATION



Repeat BP measurements
(proper cuff size is crucial)



Blood tests: renal function, electrolytes



Urinalysis



Imaging: Renal ultrasound



Echocardiogram
(to check heart effects)



CAUSES OF PEDIATRIC HYPERTENSION

1. PRIMARY (ESSENTIAL) HYPERTENSION

More common in older children & adolescents.
Associated with:



Obesity



Sedentary lifestyle



Family history



2. SECONDARY HYPERTENSION (more common in younger children)

Often due to an underlying disease.



RENAL CAUSES (most common)

- Chronic Kidney Disease
- Glomerulonephritis
- Renal artery stenosis



ENDOCRINE CAUSES

- Hyperthyroidism
- Cushing Syndrome
- Pheochromocytoma



CARDIAC CAUSES

- Coarctation of the aorta



OTHER CAUSES

- Medications (steroids, oral contraceptives)
- Sleep apnea



MANAGEMENT

1. LIFESTYLE CHANGES (FIRST-LINE)



Healthy diet (low salt, DASH diet)



Weight reduction



Regular physical activity



Limit screen time



2. MEDICATIONS (IF NEEDED)



- ACE inhibitors
- ARBs
- Calcium channel blockers
- Diuretics



COMPLICATIONS (IF UNTREATED)



Heart disease
(Left ventricular hypertrophy)



Kidney damage



Stroke



Vision problems



KEY TAKEAWAY: Always consider secondary causes in younger children.

Early detection and management are important because hypertension can silently damage organs.



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Compassionate Care.
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UNDERSTANDING THE

DASH Diet

DIETARY APPROACHES TO STOP HYPERTENSION

A heart-healthy eating plan proven to lower blood pressure and improve overall well-being.



EAT MORE



Fruits
4–5 servings/day



Vegetables
4–5 servings/day



Whole Grains
Choose oats, brown rice, whole wheat



Lean Proteins
Fish, chicken, beans, lentils, tofu



Low-Fat Dairy
Milk, yogurt, cheese



Nuts, Seeds & Legumes
Almonds, walnuts, beans, peas

LIMIT THESE



Sodium (Salt)
Goal: <1500–2300 mg/day



Processed & Fast Foods



Sugary Drinks & Sweets



Red & Processed Meats



Saturated Fats
Butter, creamy sauces, fatty cuts

WHY IT WORKS



Potassium – Helps relax blood vessels and reduce the effects of sodium.



Magnesium & Calcium – Support healthy blood vessel function.



Low Sodium – Reduces fluid retention and eases the workload on the heart.



High Fiber – Improves cholesterol levels and supports metabolism.



Together, these nutrients help lower blood pressure and protect your heart.

SAMPLE ONE-DAY PLAN



BREAKFAST
Oatmeal with berries and low-fat milk



LUNCH
Grilled chicken salad with olive oil dressing + whole grain bread



SNACK
Banana and a handful of almonds



DINNER
Baked salmon
Steamed broccoli
Brown rice



PRACTICAL TIPS



Read food labels and check sodium.



Cook more meals at home.



Use herbs, spices, lemon, garlic instead of salt.



Choose fresh or frozen foods instead of canned.



Make gradual changes for lasting results.

WHO SHOULD FOLLOW DASH?



People with high blood pressure (hypertension)



People with prehypertension



Those at risk of heart disease



Children & adolescents (with portion adjustment)



Always consult your doctor or dietitian for personalized advice.



KEY TAKEAWAY

The DASH diet is not a temporary diet—it's a sustainable lifestyle that helps lower blood pressure and supports a healthier, longer life.

*Eat Smart. Live Well.
Protect Your Heart.*



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