

### Summary of guidelines used for defining hypertension in published research among adolescents aged 10 – 19 years in SSA

Guideline	Year	Remarks
National Heart, Lung and Blood Institute (NHLBI) Task Force Report on Blood Pressure Control in Children ( <i>First Report</i> )	1977	<ul style="list-style-type: none"> <li>Children and adolescents (up to 19 years)</li> <li><b>Hypertension (HTN)</b> – Blood pressure (BP) <math>\geq</math> 95<sup>th</sup> percentile for age and sex</li> <li>First reference population (9283)</li> </ul>
NHLBI Report of the Second Task Force on Blood Pressure Control in Children ( <i>Second Report</i> )	1987	<ul style="list-style-type: none"> <li>Children and adolescents (up to 18 years)</li> <li>“<b>High normal BP</b>” was first introduced, BP between the 90<sup>th</sup> and 95<sup>th</sup> percentile for age and sex.</li> <li>Hypertension was further classified into <b>significant HTN</b> (SBP or DBP between the 95<sup>th</sup> and 99<sup>th</sup> percentile for age and sex) and <b>severe HTN</b> (SBP or DBP at or above the 99<sup>th</sup> percentile)</li> <li>Indicated need for repeat BP measurements to confirm a diagnosis</li> <li>Reference population increased to 74,429</li> <li>Advocated for accurate identification of children with hypertension, investigation to identify children with secondary hypertension</li> </ul>
NLBI Update on the 1987 Task Force Report on High Blood Pressure in Children and Adolescents ( <i>Third Report</i> )	1996	<ul style="list-style-type: none"> <li>Children and adolescents (up to 18 years)</li> <li>Provided details on the relationship between height and BP.</li> <li>BP percentile distribution by age, sex, and <b>height</b></li> </ul>
NHLBI Task Force <i>Fourth Report</i> on the Diagnosis, Evaluation, and Treatment of High Blood Pressure in Children and Adolescents	2004	<ul style="list-style-type: none"> <li>Children and adolescents (up to 17 years)</li> <li>“<b>Prehypertension</b>” was introduced to replace “high normal BP”</li> <li><b>Automated BP</b> devices are recommended. If BP measurement is high using an automated device, auscultatory methods should be used for confirmation</li> <li><b>HTN</b> further classified into Stage 1 (BP <math>\geq</math>95<sup>th</sup> and <math>\leq</math> 99<sup>th</sup> percentile + 5mmHg) and Stage 2 (BP &gt; 99<sup>th</sup> percentile + 5mmHg)</li> </ul>
Ambulatory blood pressure monitoring in children and adolescents: Recommendations for standard assessment	2008	<ul style="list-style-type: none"> <li>Children and adolescents (up to 17 years)</li> <li><b>White coat hypertension:</b> &gt;95<sup>th</sup> percentile (office BP) + &lt; 95<sup>th</sup> percentile (mean ABPM) + &lt; 25% (SBP load)</li> <li><b>Masked hypertension:</b> &lt;95<sup>th</sup> percentile (office BP) + &gt;95<sup>th</sup> percentile (mean ABPM) + &gt; 25% (SBP load)</li> <li><b>Prehypertension:</b> &gt;95<sup>th</sup> percentile (office BP) + &lt;95<sup>th</sup> percentile (mean ABPM) + 25% to 50% (Systolic load)</li> <li><b>HTN:</b> &gt;95<sup>th</sup> percentile (office BP) + &gt;95<sup>th</sup> percentile (mean ABPM) + 25% to 50% (Systolic load)</li> <li><b>Severe HTN:</b> &gt;95<sup>th</sup> percentile (office BP) + &gt;95<sup>th</sup> percentile (mean ABPM) + &gt;50% (Systolic load)</li> </ul>
European Society of Hypertension ( <b>ESH</b> ) - Management of high blood pressure in children and adolescents	2009	<ul style="list-style-type: none"> <li>Children and adolescents (up to 17 years)</li> <li><b>High BP (Prehypertension and HTN)</b> defined the same as the criteria for the <i>2004 Fourth Report</i></li> <li><b>High normal BP:</b> SBP and/or DBP <math>\geq</math> 120/80 mmHg even if below the 90<sup>th</sup> percentile</li> </ul>
American Heart Association ( <b>AHA</b> ) – Update - A Scientific Statement on Ambulatory BP Monitoring in Children and Adolescents	2014	<ul style="list-style-type: none"> <li>Children and adolescents (up to 17 years)</li> <li><b>White coat HTN:</b> SBP and/or DBP <math>\geq</math>95<sup>th</sup> percentile (office BP) + &lt; 95<sup>th</sup> percentile (mean ABPM) + &lt; 25% (SBP or DBP load)</li> <li><b>Prehypertension:</b> SBP and/or DBP <math>\geq</math>95<sup>th</sup> percentile or 120/80mmHg (office BP) + &lt;95<sup>th</sup> percentile (mean ABPM) + <math>\geq</math>25% (SBP or DBP load)</li> </ul>

		<ul style="list-style-type: none"> <li>• <b>Masked HTN:</b> SBP and/or DBP &lt;95<sup>th</sup> percentile (office BP) + &gt;95<sup>th</sup> percentile (mean ABPM) + ≥ 25% (SBP or DBP load)</li> <li>• <b>HTN:</b> SBP and/or DBP &gt;95<sup>th</sup> percentile (office BP) + &gt;95<sup>th</sup> percentile (mean ABPM) + 25% to 50% (SBP or DBP load)</li> <li>• <b>Severe hypertension:</b> SBP and/or DBP &gt;95<sup>th</sup> percentile (office BP) + &gt;95<sup>th</sup> percentile (mean ABPM) + &gt;50% (SBP or DBP load)</li> </ul>
European Society of Hypertension ( <b>ESH</b> ) - management of high blood pressure in children and adolescents	2016	<ul style="list-style-type: none"> <li>• Children and adolescents (up to 15 years)</li> <li>• <b>High BP (Prehypertension and HTN):</b> SBP and/or DBP ≥ 90<sup>th</sup> percentile (up to 15 years) or ≥130/85mmHg (if 16years and above)</li> </ul>
American Academy of Paediatrics ( <b>AAP</b> ) - Clinical Practice Guideline for Screening and Management of High Blood Pressure in Children and Adolescents	2017	<ul style="list-style-type: none"> <li>• Children and adolescents (up to 12 years)</li> <li>• <b>Elevated BP</b> was introduced to replace prehypertension.</li> <li>• <b>Obese children excluded</b> from the reference population</li> <li>• The role of 24hr-ABPM for confirmation was emphasized</li> <li>• <b>Elevated BP:</b> SBP and/or DBP ≥90<sup>th</sup> percentile and &lt; 95<sup>th</sup> percentile OR ≥ 120/80 mmHg to &lt;95<sup>th</sup> percentile (whichever is lower)</li> <li>• <b>HTN:</b> SBP and/or DBP 95<sup>th</sup> percentile to ≥ 95<sup>th</sup> percentile +12 mmHg OR ≥ 140/90mmHg (whichever is lower)</li> <li>• From 13 years, children/adolescent guideline is aligned to the guideline for adult thresholds (AHA 2017)</li> </ul>
<b>Hypertension guidelines for adults which are sometimes used in studies of adolescents</b>		
World Health Organization-International Society of Hypertension Guidelines for the Management of Hypertension ( <b>WHO – ISH</b> )	1999	<ul style="list-style-type: none"> <li>• Adults ≥ 18 years</li> <li>• <b>High normal BP:</b> SBP/DBP ≥ 130/85mmHg</li> <li>• <b>HTN:</b> SBP/DBP ≥ 140/90mmHg</li> </ul>
The Joint National Committee on Prevention, Detection, Evaluation, and Treatment of High Blood Pressure – the “ <i>Seventh Report</i> ” ( <b>JNC 7</b> )	2003	<ul style="list-style-type: none"> <li>• Adults ≥ 18 years</li> <li>• Introduced “<b>prehypertension</b>”: SBP/DBP ≥ 120/80mmHg</li> <li>• <b>HTN:</b> SBP/DBP ≥ 140/90 mmHg</li> </ul>
The International Diabetes Federation ( <b>IDF</b> ) Consensus Definition Metabolic Syndrome	2005	<ul style="list-style-type: none"> <li>• Adults ≥ 18 years</li> <li>• <b>High BP (Prehypertension and HTN):</b> SBP/DBP ≥ 130/85 mmHg</li> </ul>
Guideline for the Management of High Blood Pressure in Adults – Eighth Joint National Committee ( <b>JNC 8</b> )	2014	<ul style="list-style-type: none"> <li>• Adults ≥ 18 years</li> <li>• <b>HTN:</b> SBP/DBP ≥ 140/90 mmHg</li> </ul>
American Heart Association ( <b>AHA</b> ) Guideline for the Prevention, Detection, Evaluation, and Management of High Blood Pressure in Adults	2017	<ul style="list-style-type: none"> <li>• Adults ≥ 13 years</li> <li>• <b>Elevated BP:</b> SBP/DBP ≥ 120/&lt;80 mmHg to 129/&lt;80 mmHg</li> <li>• <b>HTN:</b> SBP/DBP ≥ 130/80 mmHg</li> </ul>