Group 1 Dataset: Clinical Questions and Corresponding Reference Responses

Questions	Reference Responses	Source
What were the differences between the 2017 US paediatric guidelines and the 2016 European Society of Hypertension (ESH) guidelines in terms of blood pressure cut-points for adolescents?	The 2017 US paediatric guidelines recommended using US adult cut-points (≥ 130/80 mm Hg) for adolescents starting at age 13, while the 2016 ESH guidelines recommended European adult cut-points (≥ 140/90 mmHg) for adolescents starting at age 16, which is more consistent with physiological body growth.	Chapter 1: definition and classification
What is the proposed cut-point for identifying left ventricular hypertrophy (LVH) by echocardiography in children?	The proposed cut-point for identifying LVH by echocardiography in this age-range is ≥45 g/m^2. Alternatively, LVH may also be defined by the 95th percentile of height normalized for age and sex.	Chapter 3: clinical evaluation and assessment of hypertension-mediated target organ damage
What are the recommended first-line antihypertensive agents for children and adolescents, and why are beta-adrenergic blockers not typically recommended?	Drug choice should be based on presumed underlying pathophysiology, the presence of concurrent disorders and the availability of appropriate formulations. The recommended first-line antihypertensive agents include angiotensin-converting enzyme inhibitors (ACEi), angiotensin receptor blockers (ARB), dihydropyridine calcium channel blockers (CCB), and diuretics. Beta-adrenergic blockers are not recommended except in specific conditions due to potential side-effects. A stepped-care approach is suggested for choosing antihypertensive agents.	Chapter 5: treatment of hypertension
Why is early recognition and management of concomitant cardiometabolic risk factors (CMRFs) important in children and adolescents with hypertension?	Early recognition and management of concomitant CMRFs are important in children and adolescents with hypertension to prevent cardiovascular disease in adulthood.	Chapter 6: assessment and management of concomitant risk factors

Group 2 Dataset: Visual Element Questions and Corresponding Reference Responses

Question	Reference Responses	Source
Please list all anamnestic information for clinical evaluation in children/adolescents with hypertension	(1) Family history of HTN (namely pregnancy hypertension), CVD, familial hypercholesterolaemia. (2) Birth weight and gestational age. (3) Environmental factors: smoking habit, salt intake, alcohol consumption, drug/substance intake. (4) Physical exercise/leisure time. (5) Possible symptoms (headache, epistaxis, vertigo, visual impairment, strokes, low school performance, attention defects, dyspnoea, chest pain, palpitations and syncope)	Table 3
How do primary and secondary hypertension in children differ regarding clinical signs?	In primary hypertension there is normally an absence of murmurs, normal femoral pulses and excess weight frequent. In secondary hypertension you will more likely find a cardiac/ and or adominal murmur, upper limb hypertension and weak/ Absent femoral pulses and excess weight rarely present.	Table 4
Which kind of physical activity and diet is recommended as part of lifestyles modifications in pediatric hypertension?	Activity (1) At least 60 min of activity per day, at least moderate (jogging, cycling, or swimming). (2) More activity = more good health. (3) Aerobic mostly, but with resistance components (3 times/ week). (4) No more than 2-h sedentary behaviour per day. (5) If stage 2 hypertension, avoid competitive sports. Diet (1) Avoid free sugar (≤5% of total calories), soft-sweetened drinks, saturated fat. (2) Prefer fruits, vegetables, and grain products (ideally, ≥4–5 servings/day). (3) Limit sodium intake (,2300 mg/daily)	Table 5
What is the threshold for the modifiable cardio-metabolic risk factor dyslipidaemia regarding HDL cholesterin?	The threshold is below 40 mg/dl.	Table 6

Group 3 Dataset: General Questions and Corresponding Reference Responses

Questions	Reference Responses	Source
Define Hypertenstion in Children and adolescents?	The definition of hypertension (HTN) in children and adolescents, stressing the use of modified AAP tables for those up to age 16. For adolescents aged 16 and older, recommended office values of ≥ 130/85 mmHg align with adult cut-offs for high-normal values. The Consensus Panel suggests echocardiography as an additional diagnostic tool.	Chapter 1: definition and classification
How has the discontinuation of mercury sphygmomanometers impacted the measurement of blood pressure in children and adolescents, and what alternative devices are currently being utilized?	The discontinuation of mercury sphygmomanometers due to concerns about mercury toxicity has led to the increased use of automated electronic sphygmomanometers, primarily based on the oscillometric technique. Despite the limited validation of oscillometric devices for pediatric use and their associated cost, recent meta-analyses support their strong measurement validity compared to mercury sphygmomanometers. The Consensus Panel emphasizes the need for global pediatric reference nomograms generated by validated oscillometric devices, prioritizing future studies in this direction. Regional standards have been proposed, and it is crucial to use only validated oscillometric devices in children. Additionally, the confirmation of hypertension diagnosis is recommended through auscultatory methods, utilizing regularly calibrated aneroid sphygmomanometers.	Chapter 2: how to measure BP in children and adolescents
In the context of blood pressure measurement in pediatric populations, what concerns and considerations arise with the widespread adoption of automated electronic sphygmomanometers, particularly those based on the oscillometric technique?	The widespread adoption of automated electronic sphygmomanometers, especially those using the oscillometric technique, raises concerns about their accuracy in estimating blood pressure in children and adolescents. Despite initial uncertainties, recent meta-analyses have confirmed the strong measurement validity of	Chapter 2: how to measure BP in children and adolescents

	oscillometric devices compared to the now-discontinued mercury sphygmomanometers. The Consensus Panel underscores the importance of generating global pediatric reference nomograms using validated oscillometric devices, even though a few regional standards have already been proposed. The necessity for confirming hypertension diagnoses using auscultatory methods with regularly calibrated aneroid sphygmomanometers is highlighted, addressing concerns about potential inaccuracies in oscillometric measurements.	
What stance does the Consensus Panel take regarding the routine use of carotid ultrasound in pediatric patients with cardiovascular risk factors, and what methodological suggestions are provided by the Association for European Paediatric Cardiology?	The Consensus Panel agrees that there is no evidence supporting routine carotid ultrasound in this age range, and the Association for European Paediatric Cardiology offers methodological suggestions without specifying cut points for any parameter.	Chapter 3: clinical evaluation and assessment of hypertension-mediated target organ damage