

# Management of Hypertension in Oncology

## Definition of Hypertension

### Normal BP

SBP and DBP <90<sup>th</sup> centile for age and sex

### Stage 1 Hypertension

SBP >95<sup>th</sup> centile on at least 3 separate readings then treatment required

### Severe/Stage 2 Hypertension

Symptomatic or SBP > 5mmHg above 99<sup>th</sup> centile

## Suspect Hypertension

Plot child's height and calculate 95<sup>th</sup> centile  
Confirm cuff size, reading with Doppler  
Ensure child is relaxed

## STEP 1 – Confirm hypertension

Consider aetiology

Underlying reno-vascular disease, tumour pressure  
Fluid overload, steroid effect  
Activation of Renin-Angiotensin system

## Asymptomatic

SBP ≥ 95<sup>th</sup> centile on at least 3 separate readings

Reverse cause if possible.

Monitor for 1-2 days if persists commence management as per severe hypertension.

## Severe Hypertension

Symptomatic or SBP >5mmHg above 99<sup>th</sup> centile

- Treat as per underlying cause:
- For fluid overload/steroid consider amlodipine and diuretics
  - For renal cause consider enalapril
  - For catecholamine excess associated with neuroblastoma, phaeochromocytoma requires alpha blockade on discussion with renal and endocrine consultants.



## Life threatening hypertension

Medical emergency, commence high dependency care

Contact oncology consultant on call

Inform outreach if available and consider urgent PICU referral

## Treatment aim of Life threatening hypertension

Reduce BP blood steadily back to normal over 72 hrs

Avoid sudden hypotension.

Aim to reduce the BP by 1/3 of the total required reduction in the 1<sup>st</sup> 24 hours of treatment.

Table 1

Upper BP centiles, according to gender age and height

Age	BP Percentile	Systolic BP, mm Hg													
		Boys - Height Centile							Girls - Height Centile						
		5th	10th	25th	50th	75th	90th	95th	5th	10th	25th	50th	75th	90th	95th
1	90th	94	95	97	99	100	102	103	97	97	98	100	101	102	103
	95th	98	99	101	103	104	106	106	100	101	102	104	105	106	107
	99th	105	106	108	110	112	113	114	108	108	109	111	112	113	114
2	90th	97	99	100	102	104	105	106	98	99	100	101	103	104	105
	95th	101	102	104	106	108	109	110	102	103	104	105	107	108	109
	99th	109	110	111	113	115	117	117	109	110	111	112	114	115	116
3	90th	100	101	103	105	107	108	109	100	100	102	103	104	106	106
	95th	104	105	107	109	110	112	113	104	104	105	107	108	109	110
	99th	111	112	114	116	118	119	120	111	111	113	114	115	116	117
4	90th	102	103	105	107	109	110	111	101	102	103	104	106	107	108
	95th	106	107	109	111	112	114	115	105	106	107	108	110	111	112
	99th	113	114	116	118	120	121	122	112	113	114	115	117	118	119
5	90th	104	105	106	108	110	111	112	103	103	105	106	107	109	109
	95th	108	109	110	112	114	115	116	107	107	108	110	111	112	113
	99th	115	116	118	120	121	123	123	114	114	116	117	118	120	120
6	90th	105	106	108	110	111	113	113	104	105	106	108	109	110	111
	95th	109	110	112	114	115	117	117	108	109	110	111	113	114	115
	99th	116	117	119	121	123	124	125	115	116	117	119	120	121	122
7	90th	106	107	109	111	113	114	115	106	107	108	109	111	112	113
	95th	110	111	113	115	117	118	119	110	111	112	113	115	116	116
	99th	117	118	120	122	124	125	126	117	118	119	120	122	123	124
8	90th	107	109	110	112	114	115	116	108	109	110	111	113	114	114
	95th	111	112	114	116	118	119	120	112	112	114	115	116	118	118
	99th	119	120	122	123	125	127	127	119	120	121	122	123	125	125
9	90th	109	110	112	114	115	117	118	110	110	112	113	114	116	116
	95th	113	114	116	118	119	121	121	114	114	115	117	118	119	120
	99th	120	121	123	125	127	128	129	121	121	123	124	125	127	127
10	90th	111	112	114	115	117	119	119	112	112	114	115	116	118	118
	95th	115	116	117	119	121	122	123	116	116	117	119	120	121	122
	99th	122	123	125	127	128	130	130	123	123	125	126	127	129	129
11	90th	113	114	115	117	119	120	121	114	114	116	117	118	119	120
	95th	117	118	119	121	123	124	125	118	118	119	121	122	123	124
	99th	124	125	127	129	130	132	132	125	125	126	128	129	130	131
12	90th	115	116	118	120	121	123	123	116	116	117	119	120	121	122
	95th	119	120	122	123	125	127	127	119	120	121	123	124	125	126
	99th	126	127	129	131	133	134	135	127	127	128	130	131	132	133
13	90th	117	118	120	122	124	125	126	117	118	119	121	122	123	124
	95th	121	122	124	126	128	129	130	121	122	123	124	126	127	128
	99th	128	130	131	133	135	136	137	128	129	130	132	133	134	135
14	90th	120	121	123	125	126	128	128	119	120	121	122	124	125	125
	95th	124	125	127	128	130	132	132	123	123	125	126	127	129	129
	99th	131	132	134	136	138	139	140	130	131	132	133	135	136	136
15	90th	122	124	125	127	129	130	131	120	121	122	123	125	126	127
	95th	126	127	129	131	133	134	135	124	125	126	127	129	130	131
	99th	134	135	136	138	140	142	142	131	132	133	134	136	137	138
16	90th	125	126	128	130	131	133	134	121	122	123	124	126	127	128
	95th	129	130	132	134	135	137	137	125	126	127	128	130	131	132
	99th	136	137	139	141	143	144	145	132	133	134	135	137	138	139
17	90th	127	128	130	132	134	135	136	122	122	123	125	126	127	128
	95th	131	132	134	136	138	139	140	125	126	127	129	130	131	132
	99th	139	140	141	143	145	146	147	133	133	134	136	137	138	139