

## EXAMPLE OF A READY RECKONER JOB AID

The ready reckoner job aids found on pages 2 and 3 are used to assess stock adequacy at specific health facilities under the India Hypertension Control Initiative. The jobs aids are based following treatment protocols and assumptions listed on Page 4.


### Protocol 1: AATCC

**Punjab**

# Hypertension Protocol

Measure blood pressure of **all adults over 18 years**

High BP: SBP  $\geq$  140 or DBP  $\geq$  90 mmHg



**Step 1** If BP is high\*  
**Prescribe Amlodipine 5mg**

**Step 2** After 30 days\* measure BP again. If still high:  
**Increase to Amlodipine 10mg**

**Step 3** After 30 days\* measure BP again. If still high:  
**Add Telmisartan 40mg**

**Step 4** After 30 days\* measure BP again. If still high:  
**Increase to Telmisartan 80mg**

**Step 5** After 30 days\* measure BP again. If still high:  
**Add Chlorthalidone 12.5mg\*\***

**Step 6** After 30 days\* measure BP again. If still high:  
**Increase to Chlorthalidone 25mg\*\***

... After 30 days measure BP again. If still high:  
Check if the patient has been taking medications regularly and correctly. If yes, refer to a specialist.

**Pregnant women and women who may become pregnant**

- DO NOT give Telmisartan or Chlorthalidone.
- Sodium ACE inhibitors, angiotensin receptor blockers (ARBs), and thiazolidine-like diuretics should not be given to pregnant women or to women of childbearing age not on effective contraception.
- Calcium channel blocker (CCB) can be used. If not controlled with intensification dose, refer to a specialist.

**Diabetic patients**

- Treat diabetes according to protocol.
- Aim for a BP target of < 140/90 mmHg.

**Heart attack in last 3 years**

- Add beta blocker to Amlodipine with initial treatment.

**Heart attack or stroke, ever**

- Begin low-dose aspirin (75mg) and statin.

**People with high CVD risk**

- Consider aspirin and statin.

**Chronic kidney disease**

- ACE or ARB preferred if dose-titral and biochemical monitoring is possible.

\* If SBP  $\geq$  180 or DBP  $\geq$  110, refer patient to a specialist after starting treatment.  
If SBP 160-179 or DBP 100-109, start treatment on the same day.  
If SBP 140-159 or DBP 90-99, check on a different day and if still elevated, start treatment.

\*\* Dose of anti-hypertensive medications can be titrated at 15 days frequency if required.  
\*\* Hydrochlorothiazide can be used if Chlorthalidone is not available (25 mg starting dose, 50 mg intensification dose).

**Lifestyle advice for all patients**

- Eat 5 servings of fruits and vegetables per day
- Avoid papads, chutney, dips, and pickles.
- Use healthy oils like sunflower, mustard, or groundnut.
- Limit consumption of fats, containing high amounts of saturated fats.

- Reduce fat intake by changing how you cook.
- Remove the fatty part of meat (like marinate or fat, skewer, or bake instead of fry)
- Cook meat at low for long.
- Avoid processed foods containing trans fats.
- Avoid added sugar.

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### Protocol 2: ATTACC

**Maharashtra**

# Hypertension Protocol

Measure blood pressure of **all adults over 18 years**

High BP: SBP  $\geq$  140 or DBP  $\geq$  90 mmHg



Check for compliance at each visit before titration of dose or addition of drugs

**Step 1** If BP is high\*  
**Prescribe Amlodipine 5 mg + adherence counseling**

**Step 2** After 30 days measure BP again. If still high:  
**Add Telmisartan\*\* 40mg**

**Step 3** After 30 days measure BP again. If still high:  
**Increase Telmisartan to 80mg**

**Step 4** After 30 days measure BP again. If still high:  
**Increase Amlodipine to 10mg**

**Step 5** After 30 days measure BP again. If still high:  
**Add Chlorthalidone 6.25mg**

**Step 6** After 30 days measure BP again. If still high:  
**Increase Chlorthalidone to 12.5mg**

... After 30 days measure BP again. If still high:  
Check that patient has been taking drugs regularly and correctly. If so, refer patient to a specialist.

**Women who are or could become pregnant**

- DO NOT give Telmisartan or Chlorthalidone.
- ACE inhibitors, angiotensin receptor blockers (ARBs), thiazolidine-like diuretics and statins should not be given to pregnant women or to women of childbearing age not on highly effective contraception.
- Calcium channel blocker (CCB) can be used. If not controlled with intensification dose, refer to specialist.

**Diabetic patients**

- Treat diabetes according to protocol.
- Aim for BP target of < 140/90.

**Heart attack in last 3 years**

- Add beta blocker to Amlodipine at initial treatment.

**Heart attack or stroke ever**

- Begin low-dose aspirin (75 mg) and statin.

**Chronic kidney disease**

- ACE inhibitor or ARB preferred if dose-titral and biochemical monitoring possible after specialist opinion.

\* If SBP 140-159 and/or DBP 90-99, start on lifestyle management for one month prior to initiation of medications.  
If SBP  $\geq$  160 and/or DBP  $\geq$  100 start treatment and refer to specialist immediately.

\*\* Recommended investigations at initiation of therapy: CBC, blood sugar, serum creatinine, electrolytes (optional). If S creatinine  $>$  1.5 mg, refer to specialist.

\*\* If Telmisartan not available, replace with Trazidol 5 mg (initiation dose) and 10 mg (intensification dose).

**Lifestyle advice for all patients**

- Eat less than 1 tsp of salt per day. Avoid papads, chutney, dips, pickles, etc.
- Exercise regularly 2.5 hours per week.

- If overweight, lose weight.
- Avoid alcohol and tobacco.

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*DRUG REQUIREMENT: READY RECKONER FOR FACILITY USING AATTCC PROTOCOL*

No. of patients registered (Up-to)	Three month's drug requirement			No. of patients registered (Up-to)	Three month's drug requirement		
	Amlodipine 5 mg	Telmisartan 40 mg	Chlorthalidone 12.5 mg		Amlodipine 5 mg	Telmisartan 40 mg	Chlorthalidone 12.5 mg
20	2520	660	120	520	65520	17160	3120
40	5040	1320	240	540	68040	17820	3240
60	7560	1980	360	560	70560	18480	3360
80	10080	2640	480	580	73080	19140	3480
100	12600	3300	600	600	75600	19800	3600
120	15120	3960	720	620	78120	20460	3720
140	17640	4620	840	640	80640	21120	3840
160	20160	5280	960	660	83160	21780	3960
180	22680	5940	1080	680	85680	22440	4080
200	25200	6600	1200	700	88200	23100	4200
220	27720	7260	1320	720	90720	23760	4320
240	30240	7920	1440	740	93240	24420	4440
260	32760	8580	1560	760	95760	25080	4560
280	35280	9240	1680	780	98280	25740	4680
300	37800	9900	1800	800	100800	26400	4800
320	40320	10560	1920	820	103320	27060	4920
340	42840	11220	2040	840	105840	27720	5040
360	45360	11880	2160	860	108360	28380	5160
380	47880	12540	2280	880	110880	29040	5280
400	50400	13200	2400	900	113400	29700	5400
420	52920	13860	2520	920	115920	30360	5520
440	55440	14520	2640	940	118440	31020	5640
460	57960	15180	2760	960	120960	31680	5760
480	60480	15840	2880	980	123480	32340	5880
500	63000	16500	3000	1000	126000	33000	6000

Example: For a health facility with 210 patients registered, adequate stock for 3 months would be 27,720 tablets of amlodipine 5 mg, 7260 tablets of telmisartan 40 mg and 1320 tablets of chlorthalidone 12.5 mg.

**Note:** If there are multiple strengths of the same medication available, convert to the base strength mentioned in the table.

DRUG REQUIREMENT: READY RECKONER FOR FACILITY USING ATTACC PROTOCOL

No. of patient registered (Up-to)	Three months' drug requirement			No. of patient registered (Up-to)	Three months' drug requirement		
	Amlodipine 5 mg	Telmisartan 40 mg	Chlorthalidone 12.5 mg		Amlodipine 5 mg	Telmisartan 40 mg	Chlorthalidone 12.5 mg
20	2040	1200	120	520	53040	31200	3120
40	4080	2400	240	540	55080	32400	3240
60	6120	3600	360	560	57120	33600	3360
80	8160	4800	480	580	59160	34800	3480
100	10200	6000	600	600	61200	36000	3600
120	12240	7200	720	620	63240	37200	3720
140	14280	8400	840	640	65280	38400	3840
160	16320	9600	960	660	67320	39600	3960
180	18360	10800	1080	680	69360	40800	4080
200	20400	12000	1200	700	71400	42000	4200
220	22440	13200	1320	720	73440	43200	4320
240	24480	14400	1440	740	75480	44400	4440
260	26520	15600	1560	760	77520	45600	4560
280	28560	16800	1680	780	79560	46800	4680
300	30600	18000	1800	800	81600	48000	4800
320	32640	19200	1920	820	83640	49200	4920
340	34680	20400	2040	840	85680	50400	5040
360	36720	21600	2160	860	87720	51600	5160
380	38760	22800	2280	880	89760	52800	5280
400	40800	24000	2400	900	91800	54000	5400
420	42840	25200	2520	920	93840	55200	5520
440	44880	26400	2640	940	95880	56400	5640
460	46920	27600	2760	960	97920	57600	5760
480	48960	28800	2880	980	99960	58800	5880
500	51000	30000	3000	1000	102000	60000	6000

**Example:** For a health facility with 210 patients registered, adequate stock for 3 months would be 22,440 tablets of amlodipine 5 mg, 13,200 tablets of telmisartan 40 mg and 1320 tablets of chlorthalidone 6.25 mg.

**Note:** If multiple strengths of the same medication are available, convert to the base strength referenced in the table.

*NOTES AND ASSUMPTIONS*

- The ready reckoner tool is based on a required stock maximum of 3-months; this may differ by health facility.
- The ready reckoner tools are specific to the protocols found above and to treatment stagewise control assumptions, shown in Table 1.

Table 1: Treatment stagewise control assumptions

Protocol Treatment Step	Expected % of patients with blood pressure controlled at this stage
1	60
2	15
3	13
4	7
5	4
6	1