Hypertension is one of the most common conditions seen in primary care and optimal management of hypertension is an important intervention in prevention of stroke, myocardial infarction, renal failure and death. The eighth Joint National Committee guidelines (JNC 8) published in 2014 provides evidence based recommendations for management of hypertension and is an important reference for clinicians. The previous guidelines (JNC 7) was in 2003 and this focused on controlling elevated systolic blood pressure in all adults with hypertension and recommended a blood-pressure goal for all age groups. The latest 2014 guideline differs from its predecessor in that it focuses on diastolic (rather than systolic) blood pressure for adults under the age of 60 years and sets more conservative blood-pressure goals for adults 60 years of age or older (150/90 mm Hg) and for patients with diabetes or chronic kidney disease (140/90 mm Hg).

| JNC 8 recommendations for hypertension treatment according to treatment groups |
|-------------------------------|-----------------|-----------------------------|
| TREATMENT GROUP                | Blood pressure treatment Goals | Strength of recommendation |
| Age < 60 years                 |                              |                             |
| Without diabetes, chronic kidney disease | Diastolic < 90 mmHg | For ages 30-59 years, Strong Recommendation – Grade A; For ages 18-29 years, Expert Opinion – Grade E |
| Age > 60 years                 |                              |                             |
| Without diabetes, chronic kidney disease | Systolic < 150 mmHg Diastolic < 90 mmHg | Grade A – Strong recommendation |
| All adults with diabetes, chronic kidney disease | Systolic < 140 mmHg Diastolic < 90 mmHg | Grade E - Expert Opinion |

Other JNC 8 recommendations

Initial antihypertension treatment in the general population, including those with diabetes
- Include one of the following drugs - Thiazide-type diuretic, calcium channel blocker (CCB), angiotensin-converting enzyme inhibitor (ACEI), or angiotensin receptor blocker (ARB). (Moderate Recommendation – Grade B)

Initial (or add-on) antihypertensive treatment in individuals with chronic kidney disease (CKD) above 18 years of age
- Should include an ACEI or ARB to improve kidney outcomes. This applies to all CKD patients with hypertension regardless of race or diabetes status. (Moderate Recommendation – Grade B)

Recommendations for increasing dose or adding a second or third drug
- The main objective of hypertension treatment is to attain and maintain goal BP. If goal BP is not reached within a month of treatment, increase the dose of the initial drug or add a second drug from one of these classes - thiazide-type diuretic, CCB, ACEI, or ARB.
- The clinician should continue to assess BP and adjust the treatment regimen until goal BP is reached.
If goal BP cannot be reached with 2 drugs, add and titrate a third drug from the list provided. Do not use an ACEI and an ARB together in the same patient. If goal BP cannot be reached using only the drugs recommended because of a contraindication or the need to use more than 3 drugs to reach goal BP, antihypertensive drugs from other classes can be used.

Referral to a hypertension specialist may be indicated for patients in whom goal BP cannot be attained using the above strategy or for the management of complicated patients for whom additional clinical consultation is needed. (Expert Opinion – Grade E)

The authors have mentioned that these guidelines are not a substitute for clinical judgment, and decisions about care must carefully consider and incorporate the clinical characteristics and circumstances of each individual patient. It should also be noted that the guidelines specifically deal with BP goals and recommendations for drugs and do not address non-pharmacological measures like diet control, exercise and weight reduction.

Authors’ conclusions:
1. High BP is defined as 140/90 mmHg which is the same as the previous guidelines.
2. There is a linear relationship between high blood pressure and risk of cardiovascular illness and stroke. Initiating treatment for high blood pressure and targeting a BP goal is therefore related to better health outcomes.
3. Lifestyle modifications like a healthy diet, weight control and regular exercise are important interventions for all persons with hypertension. These lifestyle treatments have the potential to improve BP control and even reduce medication needs.

Expert comments: Dr. Samuel Hansdak, Professor, Dept. of Medicine, CMC Vellore
Hypertension is the most prevalent chronic disease in India (Urban - 20-40% & Rural - 12-17% adults) with a major contribution to cardio-vascular morbidity and mortality. It is primarily a lifestyle disease and requires intense lifestyle intervention in both education and motivation of patients. JNC 8 guidelines (2014) have come at a time when needed the most. It is based on evidence coming strictly from randomized control trials only. The guidelines are more simplified with clear-cut thresholds and target ranges. It will surely be useful for clinicians in managing hypertensive patients.

Painful nipples in breastfeeding women


Clinical question: Are interventions to treat painful nipples in breastfeeding mothers helpful?

Conclusion: There is insufficient evidence to show that gels, ointment or breast shields significantly improve nipple pain. Applying expressed breast-milk to the nipple is the only intervention that provides short-term relief from pain.

Background and results: There is adequate evidence to show that breastfeeding has health benefits to both infants and mothers. Infants benefit from decreased incidence of childhood illnesses, obesity, diabetes and lower post-natal mortality rates. Mothers who breastfeed have lower rates of post-partum bleeding and lower risk of breast and ovarian cancer. Breast feeding is also
cost-effective and safer than bottle-feeding. For these reasons, most leading health authorities recommend exclusive breast feeding for six months.

Despite these advantages, many mothers discontinue breastfeeding after some time due to difficulties. One of the most common problems is painful nipples, which is usually due to poor positioning or latch. Several interventions have been tried to address this problem but it is unclear as to which of these is effective.

In this review, the authors searched the Cochrane Pregnancy and Childbirths and included four randomized trials involving 656 women. The objective was to assess the effects of all types of interventions in the resolution of nipple pain. The interventions in the trials included glycerine pads, lanolin with breast shells, lanolin alone, expressed breast milk and an all-purpose nipple ointment.

**Summary of results and conclusions**

1. The authors found that there was insufficient evidence that glycerine gel dressings, breast shells with lanolin, lanolin alone or nipple ointment significantly improved nipple pain.
2. Applying expressed breast-milk to the nipple provides short-term relief from pain.

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**Expert Comments:** Mrs. Ebenezer E Benjamin, Professor and Head of Obst. and Gyn. nursing, CMC, Vellore.

**What we do in CMC Vellore.**

The most important intervention for preventing and treating nipple pain is parent education. Educating the women regarding correct technique of breast feeding is important to prevent nipple pain and this should be done during pregnancy itself. The mother is taught about nipple care which includes pulling the nipple out daily if it is not erect (This can be done while taking a bath). The importance of keeping the nipple clean and moist is explained to her. Dryness of the nipple will result in cracked nipple which will lead to nipple pain while breastfeeding. The mother is advised to apply some moisturizer to keep the nipple soft and supple. Practically it really works.

Second, assist all women in first breast feeding and teach them about good attachment. During every feed the mother must be taught to look for signs of good attachment such as: the baby’s mouth must be wide open, areola must be inside the baby’s mouth, baby’s lower lip should be turned out and baby’s chin should touch the breast. Good latching is mandatory to prevent and manage nipple pain. Reassure the mother that she may have pain/discomfort during the first 30-60 secs of latching because the nipple and areola are being pulled into the baby’s mouth, then the pain will ease. If she continues to have pain, break the suction by pressing the cheeks or putting the finger in the side of baby’s mouth. Encourage the mother to reposition the baby correctly on her breast. If the pain continues after this, we always advise her to apply breast milk on the nipple. If she continues to have pain then we advise on use of nipple cream after feeding the baby. Some mothers find warm compress helpful in easing the nipple pain. A comfortable nursing position for both mother and baby helps in good attachment. Currently nursing pillows are available for this purpose.

Breastfeeding is an art. So encourage and motivate her to learn the art correctly to prevent nipple pain.