New U.S. Guidelines on Hypertension – JNC 7


The guidelines were prepared by a special committee of the National High Blood Pressure Education Program (NHBPEP), which represents 46 professional, voluntary, and federal organizations. The members were divided into five writing teams to formulate the document. In addition, 33 nationally prominent clinicians and scientists served as consultants or reviewers. The NHBPEP issues new guidelines when they are warranted by scientific advances. The first JNC report was published in 1977, and the sixth appeared in 1997. The objective has always been to translate available scientific knowledge into practical information that can serve as a guide for the busy practicing clinician.

The report has several new features which include:

A new blood pressure classification
The JNC 7 classifies blood pressure as normal (<120 mm Hg systolic and <80 mm Hg diastolic), prehypertension (120–139/80–89), stage 1 hypertension (140–159/90–99), and stage 2 hypertension (≥160/100). The previous approach, which categorized blood pressure levels as optimal, normal, high-normal, and hypertension—stages 1, 2, and 3, was at times confusing and misleading. In particular, the term high-normal blood pressure suggested to many clinicians and patients that such a level was not cause for concern. Yet, recent data indicate that blood pressure levels above 115/75 mmHg increase risk for vascular death, and that most people go on to develop hypertension in old age.

Increased attention to the use of lifestyle modifications
The report calls for adoption of lifestyle modifications to lower blood pressure or prevent it from rising from the prehypertensive stage. The recommendations are to lose excess weight; adopt the so-called DASH eating plan, which emphasizes consumption of fruits, vegetables, and low-fat dairy products; reduce dietary sodium; increase physical activity; and limit alcohol consumption.

New goals for hypertension treatment
The JNC 7 sets a goal of blood pressure less than 140/90 mm Hg for adults in general, and of less...

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Hypertension in South Africa – The first demographic and health survey, 1998

Cardiovascular disease is rapidly becoming a major cause of morbidity and mortality in developing countries throughout the world. Hypertension is one of the major risk factors leading to an increased risk of stroke, myocardial infarction, end-stage renal disease, congestive heart failure, and peripheral vascular disease. Although cost-effective pharmacological treatment and non-pharmacological interventions are available, hypertension is frequently treated inadequately, and it contributes significantly to the financial and epidemiological burden of chronic diseases in South Africa.

Following the 1994 democratic elections in South Africa, the Department of Health commissioned its National Health Information Systems Committee in 1995 to obtain basic health data on its population. In 1998, the Medical Research Council of South Africa coordinated the implementation of the 1998 South African Demographic and Health Survey (SADHS). This study is one of the first national surveys in a sub-Saharan African country conducted in a representative random sample of adults. This cross-sectional study determined the prevalence and treatment status of hypertension.

The sample consisted of 13,802 randomly selected South Africans, 15 years and older, visited in their homes during 1998. Questionnaires completed by trained fieldworkers were on socio-demographic characteristics, lifestyle and the management of hypertension. The medication used for hypertension was recorded. Blood pressure was measured with an M1 Omron monitor. Logistic regression analyses were used to identify the determinants of hypertension and the treatment status in this data set. The mean systolic blood pressure for men and women was 123 mmHg (SE 0.37) and 119 mmHg (SE 0.36), while the mean diastolic level was 76 mmHg (SE 0.25) and 75 mmHg (SE 0.20), respectively. When using a cut-off point of 140/90 mmHg, the hypertension prevalence rate (age-adjusted to the South African Population, Census 1996) was 21% for men and women. This represents about 6.3 million South Africans 15 years and older with hypertension. The public sector health services use the cut-off point (160/95 mmHg), giving a prevalence rate of 11% for men and 14% for women and represents about 3 million South Africans. South African health-care services need to decide if the new WHO/ISH guidelines (cut-off point 140/90 mmHg) should be adopted for South Africa. If this happens the burden of defined hypertension will double. In addition to the three million patients with hypertension, another three million people will qualify for some form of hypertension treatment.

Further analyses showed that among South African men socio-demographic factors – irrespective of ethnic population group - older age, overweight, wealth, excessive alcohol use and family history of stroke were associated with being hypertensive. Among women, the socio-demographic factors associated with higher hypertension rates was a tertiary education with no differences among the population groups. However, rural African women had lower rates of hypertension than the other groups. Other factors included aging, overweight and obesity, and a family history of stroke and hypertension. The awareness of hypertension, the use of hypertension medication, and the control of hypertension varied by age, income, and education, and differed also between rural and urban populations.

One possible cost-effective approach to consider would be to find better ways of identifying those at highest risk for CVD. The health-care team, particularly at the primary-care level, needs to be trained to provide the necessary non-drug interventions, to motivate patients to a higher level of compliance and to prescribe the cost-effective drugs on the essential drug list for hypertension control. Furthermore, the general population should be made aware of hypertension as a health threat and should be encouraged to request BP measurements when attending health services. Inexpensive prevention methods are also required, targeting the population as a whole through education and lifestyle changes.

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than 130/80 mm Hg for patients who have diabetes or renal disease. It recommends that treatment focus on achieving the systolic goal, since most people with hypertension will have an acceptable diastolic pressure once the systolic pressure has been brought down appropriately.

Simplified and strengthened drug therapy recommendations

The guidelines recommend use of a diuretic, either alone or in combination with another class of drug, as part of the initial treatment plan for most patients. Other drug classes that have been shown to be effective in reducing hypertension’s cardiovascular complications and may be considered for initial therapy are ACE (angiotensin-converting enzyme) inhibitors, angiotensin receptor blockers, beta-blockers, and calcium-channel blockers. The report also lists “compelling indications” – or high-risk conditions – for which such drugs are preferred as initial therapy. It further notes that in some cases two or more medications may be needed to lower blood pressure to the desired level.

Improved hypertension control

Although U.S. hypertension control rates have improved during the past decade, much more can and should be done. The report provides recommendations on promoting adherence to medical regimens, noting that even the most effective therapy prescribed by the most careful and knowledgeable clinician will control hypertension only if patients are motivated. Clinicians need to build trust and strengthen communications with patients and their families if they are to maximize their effectiveness.

The JNC 7 Express Report, along with a handy reference card for practitioners, teaching slides in PowerPoint format, a booklet on the DASH eating plan, and a patient’s guide to lowering blood pressure are available free online at www.nhlbi.nih.gov.
Professor Rudolf de Chätel has been elected President of the Hungarian Society of Hypertension until 2006. Professor Csaba Farsang is Honorary President For Life. The address of the Society is: Semmelweis University, 1st Department of Medicine, Korányi 2/a, Budapest 1083, Hungary.

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The Hypertension Online Slide Library is a collection of slide talk resources for physicians and researchers to use as self-study tools or in educational activities.

Impressum
The objectives of the WHL are to promote the detection, control and prevention of arterial hypertension in populations. The World Hypertension League (WHL) is a federation of leagues, societies and other national bodies devoted to this goal. Individual membership is not possible. The WHL is a division of the International Society of Hypertension (ISH), and is in official relations with the World Health Organization (WHO).

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Accra, Ghana
Information: ISHIB
2045 Manchester Street, NE, Atlanta, GA 30324-4110, USA
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20th Scientific Meeting of the International Society of Hypertension
February 15–19, 2004
Sao Paulo, Brazil
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WHL Regional Meeting with the Czech Society of Hypertension:
Community Control of Hypertension in Central and Eastern Europe
April 24, 2004
Prague, Czech Republic
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14th Congress of the European Society of Hypertension
June 13–16, 2004
Paris, France
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3rd International Congress on Cardiovascular Diseases
November 25–27, 2004
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