

# Santa Cruz County 2003 Health Almanac

## Heart Disease and Stroke

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### Agencies and Information Sources

#### **Santa Cruz County (SCC) Health Services Agency** - <http://www.santacruzhealth.org/>

The Health Services Agency (HSA) exists to protect and improve the health of the people in Santa Cruz County. The Agency provides programs in Environmental Health, Public Health, Medical Care, Substance Abuse Prevention and Treatment, and Mental Health.

#### **California Department of Health Services** - <http://www.dhs.ca.gov/default.htm>

To Protect and Improve the Health of All Californians

See: <http://www.dhs.ca.gov/hisp/chs/OHIR/Publication/publicationindex.htm>

#### **California Health Interview Survey** - <http://www.chis.ucla.edu/index.html>

The California Health Interview Survey (CHIS) is the largest state health survey conducted in the United States. Every two years, CHIS plans to collect information on the health and health care needs of California's diverse population.

#### **Centers for Disease Control and Prevention** - <http://www.cdc.gov/default.htm>

CDC's Mission is to promote health and quality of life by preventing and controlling disease, injury, and disability.

CDC's specific mission in cardiovascular health is to reduce the burden, and eliminate disparities associated with heart disease and stroke. Heart disease and stroke are, respectively, the first and third leading causes of death in the United States. They are the principal causes of cardiovascular disease death and are also major causes of disability.

#### [About Cardiovascular Disease](#)

General information about cardiovascular disease.

#### [CDC's Cardiovascular Health Program](#)

Cardiovascular health activities in the National Center for Chronic Disease Prevention and Health Promotion

See: <http://www.cdc.gov/cvh/>

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### Cardiovascular Health

<http://www.cdc.gov/cvh/> A Public Health Action Plan to Prevent Heart Disease and stroke

Mission: To provide public health leadership to improve cardiovascular health for all, reduce the burden, and eliminate disparities associated with heart disease and stroke.

Heart disease and stroke are, respectively, the first and third leading causes of death in the United States. They are the principal causes of cardiovascular disease death and are also major causes of disability

### **Blood Pressure** [http://www.nhlbi.nih.gov/health/public/heart/hbp/hbp\\_low/hbp\\_low.pdf](http://www.nhlbi.nih.gov/health/public/heart/hbp/hbp_low/hbp_low.pdf)

Your Guide to Lowering Blood Pressure

You CAN Lower Your Blood Pressure With this Guide

"You can do it!" is the message in this action-packed guide. Follow step-by-step instructions on how to achieve and maintain a lower blood pressure through lifestyle and, if prescribed, medication. It's filled with practical advice about how to find your target weight, use herbs and spices to reduce sodium intake, and even how to remember to take your blood pressure medication. The bright, colorful design and upbeat language motivates as it educates hypertensive and prehypertensive patients to take control of their cardiovascular health. **Your Guide to Lowering Blood Pressure.** 20 pages. NIH Publication No. 03-5232.

### **New Blood Pressure Guidelines – 5/03**

The National Heart, Lung, and Blood Institute (NHLBI) today released new clinical practice guidelines for the prevention, detection, and treatment of high blood pressure. The guidelines, which were approved by the Coordinating Committee of the NHLBI's National High Blood Pressure Education Program (NHBPEP), feature altered blood pressure categories, including a new "prehypertension" level—which covers about 22 percent of American adults or about 45 million persons.

The new guidelines also streamline the steps by which doctors diagnose and treat patients, and recommend the use of diuretics as part of the drug treatment plan for high blood pressure in most patients.

Called "[The Seventh Report of the Joint National Committee on Prevention, Detection, Evaluation, and Treatment of High Blood Pressure](#)," the guidelines will appear in the May 21, 2003, issue of The Journal of the American Medical Association (JAMA). But, due to their importance, they will be available on May 14, 2003, on the [JAMA Web site](#) (jama.com) in an expedited version.

The guidelines were prepared by a special committee of the NHBPEP, which represents 46 professional, voluntary, and Federal organizations, and reviewed by 33 national hypertension experts and policy leaders. The NHBPEP issues new guidelines when warranted by scientific advances. The last guidelines were issued in November 1997.

"Since 1997, much more has been learned about the risk of high blood pressure and the course of the disease," said NHLBI Director Dr. Claude Lenfant. "Americans' lifetime risk of developing hypertension is much greater than we'd thought. For instance, those who do not have hypertension at age 55 have a 90 percent risk of going on to develop the condition.

"We also now know that damage to arteries begins at fairly low blood pressure levels—those formerly considered normal and optimal," he continued. "In fact, studies show that the risk of death from heart disease and stroke begins to rise at blood pressures as low as 115 over 75, and that it doubles for each 20 over 10 millimeters of mercury (mm Hg) increase. So the harm starts long before people get treatment.

"Unless prevention steps are taken, stiffness and other damage to arteries worsen with age and make high blood pressure more and more difficult to treat. The new prehypertension category reflects this risk and, we hope, will prompt people to take preventive action early."

"The past six years have brought results from more than 30 clinical studies worldwide, many of which were funded by the NHLBI," said Dr. Aram V. Chobanian, Dean of Boston University School of Medicine in MA and Chair of the Joint National Committee that produced the new

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guidelines. “These findings have been remarkably consistent in demonstrating the critical importance of lowering blood pressure, irrespective of age, gender, race, or socio-economic status. The data allow us to create a set of recommendations that are easier to use than past guidelines, which should in turn make it easier for clinicians to treat their patients’ hypertension.” High blood pressure is a major risk factor for heart disease and the chief risk factor for stroke and heart failure, and also can lead to kidney damage. It affects about 50 million Americans—one in four adults. Treatment seeks to lower blood pressure to less than 140 mm Hg systolic and less than 90 mm Hg diastolic for most persons with hypertension (less than 130 systolic and less than 80 diastolic for those with diabetes and chronic kidney disease).

The guidelines include new data on U.S. control, awareness, and treatment rates for high blood pressure. According to a national survey, 70 percent of Americans are aware of their high blood pressure, 59 percent are being treated for it, and 34 percent of those with hypertension have it under control. Those percentages represent a slight improvement over rates for 10 years ago, when 68 percent of Americans were aware of their high blood pressure, 54 percent were being treated for it, and 27 percent of those with hypertension had it under control. By contrast, about 25 years ago, 51 percent were aware of their high blood pressure, 31 percent were being treated, and 10 percent of those with hypertension had it under control.

“Though improved, the treatment and control rates are still too low,” said Chobanian. “The new guidelines zero in on this problem, recommending factors that often lead to inadequate control such as not prescribing sufficient medication. The guidelines stress that most patients will need more than one drug to control their hypertension and that lifestyle measures are a crucial part of treatment.

“Another key factor is the need for clinicians to pay more attention to systolic blood pressure in those age 50 and older,” he continued. “From mid-life on, systolic hypertension is a more important cardiovascular risk factor than diastolic. It’s also much more common and harder to control.”

Key aspects of the new guidelines include:

A new “prehypertension” level and merging of other categories. The new report changes the former blood pressure definitions to: normal, less than 120/less than 80 mm Hg; prehypertension, 120-139/80-89 mm Hg; stage 1 hypertension, 140-159/90-99 mm Hg; stage 2 hypertension, at or greater than 160/at or greater than 100 mm Hg. The 1997 categories were optimal, normal, high-normal, and hypertension stages 1, 2, and 3.

“Stages 2 and 3 were combined because their treatment is essentially the same,” said Chobanian. “The new prehypertension category should alert people to their real risk from high blood pressure.”

The guidelines do not recommend drug therapy for those with prehypertension unless it is required by another condition, such as diabetes or chronic kidney disease. But the report advises them—and encourages those with normal blood pressures—to make any needed lifestyle changes. These include losing excess weight, becoming physically active, limiting alcoholic beverages, and following a heart-healthy eating plan, including cutting back on salt and other forms of sodium. The report also recommends that, for overall cardiovascular health, persons quit smoking.

As in the 1997 guidelines, the new report recommends Americans follow the DASH—Dietary Approaches to Stop Hypertension—eating plan, which is rich in vegetables, fruit, and nonfat dairy products. Clinical studies have shown that DASH significantly lowers blood pressure. The decreases are often comparable to those achieved with blood pressure-lowering medication.

Simplified and strengthened drug treatment recommendations. The guidelines recommend use of a diuretic, either alone or in combination with another drug class, as part of the treatment plan in most patients. The report notes that even though many studies have found diuretics to be effective in preventing hypertension’s cardiovascular complications, they are currently not being sufficiently used.

The guidelines also list other drug classes that have been shown to be effective in reducing

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hypertension's cardiovascular complications and that may be considered to begin therapy: angiotensin converting enzyme (ACE) inhibitors, angiotensin receptor blockers, beta-blockers, and calcium channel blockers. The report also gives the "compelling indications"—or high-risk conditions—for which such drugs are recommended as initial therapy.

Use of additional drugs for severe hypertension or to lower blood pressure to the desired level. According to the new report, most persons will need two, and at times three or more, medications to lower blood pressure to the desired level.

The guidelines also recommend clinicians work with patients to agree on blood pressure goals and develop a treatment plan.

"No treatment will work unless patients stay on it, no matter how careful the clinician," said NHBPEP Coordinator Dr. Ed Roccella. "The guidelines incorporate information from behavioral studies and offer advice to clinicians on how to motivate patients to stick with their treatment. It's crucial to build trust and make sure patients understand their treatment and feel able to voice their concerns."

To raise awareness about the dangers of high blood pressure, NHLBI is developing special Web pages and educational materials for health care professionals, patients, and the public. These include an updated "Your Guide To Lowering High Blood Pressure" Web page, which can be found at [www.nhlbi.nih.gov/hbp](http://www.nhlbi.nih.gov/hbp).

"The bottom line is that Americans must change how they think about blood pressure," said Roccella. "The sooner they take action, the better. It's vital that they adopt a heart-healthy lifestyle early, even if their blood pressure is normal."

"May is National High Blood Pressure Education Month, a good time for people to take stock of their heart health—along with the steps necessary to protect it," he added.

Information and resources regarding National High Blood Pressure Education Month are available at <http://www.nhlbi.nih.gov/hbp/index.html>. The guidelines and related information are available at <http://www.nhlbi.nih.gov/guidelines/hypertension/index.htm>.

To interview an NHLBI spokesperson about the new guidelines, call the NHLBI Communications Office at (301) 496-4236. To interview Dr. Chobanian, call Gina DiGravio at the Boston University School of Medicine's Corporate Communications Office at (617) 638-8491.

NHLBI press releases and other materials, including those related to high blood pressure, are available online at [www.nhlbi.nih.gov](http://www.nhlbi.nih.gov).

### Exercise Heart Rate Predicts Death

#### How Heart Rate Recovers After Intense Workout Suggests Future Risk of Dying

By Sid Kirchheimer

WebMD Medical News

Reviewed By Michael Smith, MD

on Tuesday, September 23, 2003

Sept. 21, 2003 -- How quickly your heart rate bounces back from intense exercise may predict future risk of dying from heart disease, according to a new study of women, half of whom die from America's top killer -- usually when they have few or no outward symptoms.

After studying some 3,000 women for 20 years, researchers say that even seemingly healthy women whose hearts take longer to slow down after exercising to the point of exhaustion are more than three times more likely to later die from heart disease.

This finding, published in this week's issue of *The Journal of the American Medical Association*, follows another study published three weeks ago that also suggested that heart rate recovery may be an important predictor of future heart disease death.

#### Men's Failing Hearts

The previous study, in the *Journal of the American College of Cardiology*, showed that older men whose heart rates did not slow down by at least 12 beats within the first minute after a treadmill

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exercise stress test were more than twice as likely to die from heart disease in the future. However, most of those 3,000 men either had existing heart disease or were considered likely candidates for it.

But in the new study, researchers found that even when free of heart disease symptoms, women face a higher future death rate when their heartbeat drops fewer than 10 beats per minute from its target heart rate zone, the intense heart-pumping levels achieved in vigorous workouts. This new study involved women as young as age 30, and none had significant heart disease risks when enrolled.

It's especially important because women are more likely than men to die from heart disease without first displaying symptoms or having risk factors.

Target heart rate is 220 minus your age. The researchers subtracted 5 from this number if the person was physically active -- since their heart rates were more likely to be lower to start with.

### **Treadmill Tests Predict Risk**

The findings from both studies suggest that popular treadmill stress tests may be useful in predicting future risk of dying from heart disease. Currently, these tests are primarily used to diagnose heart disease, and not predict it, and are usually given to men suspected of having impaired blood flow or other risks; in women, the tests are deemed less reliable.

"In women, exercise stress tests are used less often because women tend to get more false positives," says lead researcher Samia Mora, MD, MHS, of Johns Hopkins School of Medicine.

"And they're rarely done when women don't have outward symptoms of heart disease."

The stress test involves first walking and then running on a treadmill that steadily increases in speed and inclines while the doctor measures heart rate, blood pressure, and the heart's electrical currents. Based on these findings, they can determine if there is adequate blood flow to the heart during increased activity.

### **Do It Yourself**

While a treadmill test, which costs about \$600, is the most accurate way to gauge heart rate recovery, Mora tells WebMD that you can get a rough idea of your recovery level by doing a little math during and immediately following an intense workout.

"While you exercise at the highest level possible, check your heart rate by counting the beats for 15 seconds and then multiplying by four," she says. "Then, when you stop exercising completely, sit in a chair for two minutes and then count your heart rate again. Subtract the two numbers."

In her study, when the initial difference between those two numbers was 55 or more, women were less likely to die of heart disease decades later than when the difference was less than 55 beats at that two-minute measurement.

"And for every additional minute that the heart rate declined 10 beats or more, there was an additional 36% decrease in later death risk," she adds. "Of course, the greater initial difference between the target heart rate and recovery rate, and the more beats-per-minute and faster it decreased after exercise stopped, the better off they were."

These calculations can be taken during any type of sustained intense exercise. But it's crucial that they be taken while you are exercising at peak levels, not at levels done through brisk walking or during more moderate workouts.

### **Too Little Exercise**

"The problem is that only 10%-15% of Americans exercise at the peak levels that are measured in treadmill stress tests; most people don't exercise long or hard enough to reach those levels in their regular workouts," says Dee Edington, PhD, who has studied the effects of exercise on some 2 million Americans during his career as an exercise physiologist at the University of Michigan Health Management Research Center.

"In my opinion, it's more important for people to get off the couch and not really worry about their heart rate recovery," he tells WebMD. "Even if they only get moderate exercise on most days, they will improve their cardiovascular fitness and probably reduce their risk of heart disease. When people exercise at a level that's comfortable, they're more likely to continue doing it for years, rather than the four- to eight-weeks that most Americans spend before quitting a new exercise program."

His recommendation: "Do the talk test," he tells WebMD. "You should be able to carry on a conversation while you're exercising, but with some difficulty because your breathing is labored. That means you're getting a good workout, but not so intense that you're more likely to quit."

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Victor Katch, EdD, who wrote the most popular exercise physiology textbook in use today, agrees that do-it-yourself heart rate recovery calculations may not be necessary for the typical American and are best evaluated in a sophisticated treadmill stress test.

"There are a lot of factors that depend on how quickly the heart rate recovers -- your age, current fitness levels, even the weather," he tells WebMD. "Heart rate recovery will be slower if you exercise on a hot and humid day. It's really hard to give hard-and-fast rules that apply to everyone."

Still, both men say that most people should notice a distinct slowing of their heart rate after 5 minutes of stopping a good workout, and be fully recovered to their resting heartbeat within 10 to 20 minutes.

SOURCES: Mora, S. *The Journal of the American Medical Association*, Sept. 24, 2003, vol 290: pp 1600-1607. Vivekananthan, D. *Journal of the American College of Cardiology*, Sept. 3, 2003; vol 42: pp 831-838. Samia Mora, MD, MHS, cardiology fellow, Johns Hopkins School of Medicine, Baltimore. Dee Edington, PhD, professor of movement science; research scientist, the University of Michigan Health Management Research Center, Ann Arbor. Victor Katch, EdD, professor of kinesiology and movement science; the University of Michigan, Ann Arbor.

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Original article:

<http://my.webmd.com/content/Article/74/89152.htm>

### Cholesterol

(All figures are for U.S.)

Percent of office visits to physicians with Cholesterol measure ordered or provided: 4.8 % (2000)

Percent of Americans Ages 20-74 With High Serum Cholesterol: 19% (1994)

Mean Serum Cholesterol level, mg/dL: 203 (1994)

High Serum Cholesterol Is Most Prevalent Among White, Non-Hispanic Females

High Serum Cholesterol Is Least Prevalent Among Black Males

<http://www.cdc.gov/nchs/fastats/cholest.htm>

### California –Cholesterol Awareness

Have you ever had your blood cholesterol checked?

	Yes	No
%	74.7	25.3
CI	(73.1-76.2)	(23.7-26.8)
n	3285	906

% = Percentage, CI = Confidence Interval, n = Cell Size

Percentages are weighted to population characteristics.

Use caution in interpreting cell sizes less than 50.

[See notes for data users.](#)

About how long has it been since you last had your blood cholesterol checked?

	Past year	Past 2 years	Past 5 years	5+ years ago
%	68.7	15.3	11.1	4.8
CI	(66.7-70.6)	(13.7-16.8)	(9.5-12.6)	(4.0-5.5)
n	2240	510	351	168

<http://apps.nccd.cdc.gov/brfss/display.asp?cat=CA&yr=2001&qkey=2728&state=CA>

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### Heart Disease

(All figures are for U.S.)

Deaths Annually: **710,760 (2000)**

Age-Adjusted Death Rate: 257.9 deaths per 100,000 population (2000)

Cause of Death Rank: **1 (2000)**

Approximately 15 million were told they had heart disease (1997)

Hospital Discharges for Patients with Heart Disease: **4.4 million (2000)**

Average Length of Hospital Stay: **4.7 days (2000)**

<http://www.cdc.gov/nchs/fastats/heart.htm>

California State Healthcare Quality and Analysis Division (HQAD) provides healthcare information products for accurate assessment of patient outcomes, healthcare planning, patient safety and the avoidance of errors in the healthcare delivery system.

Original article:

<http://my.webmd.com/content/Article/73/82015.htm>

### Heart Attack Treatment Saves Lives

#### Rarely Used, Inexpensive Treatment Has Been Available for Decades

By Salynn Boyles

WebMD Medical News

Reviewed By Michael Smith, MD

on Tuesday, September 02, 2003

Sept. 2, 2003 -- An inexpensive and low-tech heart attack treatment that has been around for decades has the potential to save thousands of lives each year, new research from the Netherlands suggests.

In the largest study yet to examine the heart attack treatment, death rates fell by almost three-fourths among patients who had a heart attack but did not have subsequent heart failure. The treatment involves giving a glucose-insulin-potassium solution in the hours following a heart attack.

"I consider this to be a landmark study for the treatment of [heart attacks]," writes Boston University School of Medicine cardiologist Carl S. Apstein, MD, who was not involved with the research but wrote an editorial accompanying it. It has the potential to save approximately 30,000 lives per year, he writes.

It is not clear why the simple heart attack treatment saves lives, but researchers believe that glucose provides most of the heart-protecting benefit, with the insulin and potassium helping it get to the heart muscle. Glucose is the sugar that most cells in the body use for fuel.

The study included 940 heart attack patients in the Netherlands. Half the patients were given the continuous glucose-insulin-potassium infusion for eight to 12 hours and the other half did not receive the heart attack treatment. If needed, the patients also received angioplasty -- using a balloon to open the clogged artery that caused the heart attack.

At first, the researchers did not see any evidence that the heart attack treatment improved survival chances. But when the 84 patients with signs of heart failure from the heart attack were removed from the analysis, a clear survival benefit emerged for the remaining 856 patients who received infusions.

Thirty days after the heart attack treatment, the death rate was almost 75% lower among infusion patients -- 1.2% vs. 4.2% for patients who did not receive infusions. The infusion patients also had fewer repeat heart attacks and repeat angioplasties. The findings are reported in the Sept. 3 issue of the *Journal of the American College of Cardiology*.

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Lead researcher Iwan C.C. van der Horst, MD, says it is not clear why patients with heart failure failed to benefit from the heart attack treatment, but he says the large volume of fluid involved in the infusion may be to blame.

In a separate study involving 407 heart attack patients, a small survival advantage was seen among patients with heart failure who received the glucose-insulin-potassium infusions. In that study, only about half as much fluid was given. Too much fluid in someone with heart failure causes fluid to build up in the lungs.

Van der Horst adds that the study's findings need to be confirmed before the infusion becomes a routine heart attack treatment. Apstein says follow-up studies should be designed to determine if beginning the infusion earlier could further reduce heart attack deaths.

American Heart Association spokesman Richard Becker, MD, tells WebMD that glucose-insulin-potassium infusion has been studied as a heart attack treatment since the 1960s but early trials were small and their results inconclusive. The University of Massachusetts Medical School cardiologist calls the latest findings "compelling" and says the heart attack treatment definitely merits further study.

"These findings emphasize the importance of investigating metabolic therapies like this one," he says. "A trial would probably need several thousand patients to provide the answers we need. But this is a widely available, inexpensive therapy, and if there is value to be had we certainly want to identify it."

SOURCES: Van der Horst, I. *Journal of the American College of Cardiology*, Sept. 3, 2003; vol 42: pp 784-791. Iwan C.C. van der Horst, MD, department of cardiology and internal medicine, Hospital de Weezenlanden, Zwolle, Netherlands. Carl S. Apstein, MD, FACC, Cardiac Muscle Research Laboratory, University School of Medicine, Boston. Richard Becker, MD, cardiologist, director of coronary care unit, Cardiovascular Thrombosis Research Center, University of Massachusetts Medical School.

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### Ever Diagnosed With heart Disease by Total (Adult) and Gender CHIS 2001

	Ever Diagnosed With Heart Disease	
	Yes	No
California--Total (Adults)	6.9	93.1
Santa Cruz--Total (Adults)	6.5	93.5
California--Male	7.3	92.7
Santa Cruz --Male	6.9	93.1
California--Female	6.6	93.4
Santa Cruz --Female	6.2	93.8

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### Ever Diagnosed With Heart Disease by Race/Ethnicity (Adult) CHIS 2001

	Ever Diagnosed With Heart Disease	
	Yes	No
California--White	8.9	91.1
Santa Cruz --White	7.4	92.8
California--Black	8.2	91.8
Santa Cruz --Black	.	87.2
California--Latino	3.2	96.8
Santa Cruz --Latino	*3.4	96.6
California--Asian	4.8	95.2
Santa Cruz --Asian	.	94.8
California--Am. Ind.	11.2	88.8
Santa Cruz --Am. Ind.	.	.
California--Other	5.2	94.8
Santa Cruz --Other	.	98.8

Statistically unstable

### Ever Diagnosed With Heart Disease by Poverty Level (Adult) CHIS 2001

	Ever Diagnosed With Heart Disease	
	Yes	No
California--0 - 99%	7.3	92.7
Santa Cruz --0 - 99%	*5.2	94.8
California--100 - 199%	8.2	91.8
Santa Cruz --100 - 199%	10.0	90.0
California--200 - 299%	7.3	92.7
Santa Cruz --200 - 299%	*4.6	95.4
California--300%+	6.3	93.7
Santa Cruz --300%+	6.2	93.8

\* Statistically unstable

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## Hypertension

(All figures are for U.S.)

Percent of Americans Ages 20-74 With Hypertension: 23% (1988-94)

Hypertension Is Most Prevalent in the Black Population

Over Three-Quarters of Women Aged 75 and Over Have Hypertension

Sixty-four Percent of Men Aged 75 and Over Have Hypertension

Deaths Annually: 23,761 (2000)

Death Rate: 8.6 deaths per 100,000 population (2000)

In 2000, there were 35 million Office Visits for Hypertension

<http://www.cdc.gov/nchs/fastats/hypertens.htm>

## CA Hypertension awareness

<http://apps.nccd.cdc.gov/brfss/display.asp?cat=HA&yr=2001&qkey=1365&state=CA>

## Ever Diagnosed With Hypertension by Total and Gender (Adult) CHIS 2001

	Ever Diagnosed With Hypertension	
	Yes	No
California--Total (Adults)	21.8	78.2
Santa Cruz --Total	18.9	81.1
California--Male	21.8	78.2
Santa Cruz --Male	20.5	79.5
California--Female	21.9	78.1
Santa Cruz --Female	17.5	82.5

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### Ever Diagnosed With Hypertension by Race/Ethnicity (Adult) CHIS 2001

	Ever Diagnosed With Hypertension	
	Yes	No
California--White	24.7	75.3
Santa Cruz --White	20.8	79.2
California--Black	32.9	67.1
Santa Cruz --Black	.	85.0
California--Latino	14.3	85.7
Santa Cruz--Latino	13.4	86.6
California--Asian	17.7	82.3
Santa Cruz --Asian	*18.6	81.4
California--Am. Ind.	31.5	68.5
Santa Cruz --Am. Ind.	.	.
California--Other	20.2	79.8
Santa Cruz --Other	*9.6	90.4

\*Statistically unstable

### Ever Diagnosed With Hypertension by Poverty Level (Adult) CHIS 2001

	Ever Diagnosed With Hypertension	
	Yes	No
California--0 - 99%	21.8	78.2
Santa Cruz--0 - 99%	22.4	77.6
California--100 - 199%	23.8	76.2
Santa Cruz --100 - 199%	23.3	76.7
California--200 - 299%	22.7	77.3
Santa Cruz --200 - 299%	12.0	88.0
California--300%+	20.8	79.2
Santa Cruz--300%+	18.1	81.9