Researchers are working to develop new blood tests for prostate cancer. *Harvard Men’s Health Watch* will keep you up to date on promising developments.

**The paradox of screening**

Despite enormous progress over the past 30 years, scientists still have a lot to learn about the prevention, diagnosis, and treatment of cancer. When it comes to early diagnosis, technology often delivers screening techniques to doctors before outcome studies show how best to use them. At present, it’s clear that everyone over 50 should be screened for colon cancer. Women are sure to benefit from Pap smears for cervical cancer and mammograms for breast cancer. Everyone is likely to benefit from simple self-examinations for melanomas and other skin cancers, and young men will probably benefit from testicular self-exams. But it’s not clear if PSA testing will live up to its promise, and studies of spiral CTs for lung cancer are just getting under way. In a sense, these new tests are a paradigm for much of modern medicine: technology has provided knowledge about what is possible before science has produced the wisdom about how to use it.

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**Saunas and your health**

Sweating is an impulse that extends far back in human history. About 3,000 years ago, the Mayans of Central America used sweat houses for religious ceremonies and good health. Nearly every culture has its own way of using heat for relaxation, therapy, and ritual; ancient Roman baths, modern Turkish steam baths, and trendy American hot tubs are but a few examples. One of the oldest—and hottest—of these techniques is the sauna. Saunas have been used for thousands of years in Finland, where nearly a third of all adults take them regularly. And saunas are increasingly popular in the United States, where over one million are in use.

Popularity is one thing, safety another. Are saunas good for your health, or can they be harmful?

**Inside the box**

The modern sauna is a simple unpainted room with wooden walls and benches. Heat is provided by a rock-filled electric heater—and it gets plenty hot. The recommended temperature rises from about 90°F at floor level to about 185°F at the top. Unlike Turkish baths, Finnish saunas are very dry, maintaining humidity levels of just 10%–20%. Water drains through the floor to keep things dry. In a good sauna, an efficient ventilation system exchanges the air three to eight times an hour.

**Inside the body**

Experienced sauna bathers usually stay inside for periods of 5–20 minutes; after a cooling-off period, some return for a second session. And people in the know always remember to drink plenty of fluids after their saunas.

The dry heat has profound effects on the body. Sweating begins almost immediately. The average person will pour out a pint of sweat during his brief sauna, but it evaporates so quickly in the dry air that people may not realize how much they perspire. Skin temperature soars to about 104°F within minutes, but internal temperatures rise more slowly and usually stay below 100°F.

Changes in body temperature are easy to understand, but the cardiovascular responses to heat are even more important. The pulse rate jumps by 30% or more, allowing the heart to nearly double the amount of blood it pumps each minute. Most of the extra blood flow is directed to the skin; in fact, the circulation actually shunts blood away from the internal organs. The blood pressure is unpredictable, rising in some people but falling in others. All of these changes resolve quickly after people cool down.

Although a sauna may help you relax, your heart is working hard while you sit on your bench. Is that safe?

**The heart of the matter**

Much of the information about sauna safety comes from Finland. A 16-month study of 1,631 heart attacks in Helsinki found that just 1.8% developed within 3 hours of taking a sauna. In another investigation of all 6,175 sudden deaths that occurred in 1 year, only 1.7% occurred within 24 hours of taking a sauna—and many of those were related to alcohol.

Do studies from Finland, where taking saunas is a national pastime, apply to sometime bathers in other parts of the world? Canadian researchers investigated sauna safety in 16 patients with proven coronary artery disease. They compared the effects of a 15-minute sauna with a standard treadmill stress test.

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**Hot tub safety**

Hot tubs are cooler than saunas, with average temperatures between 100°F and 104°F. If saunas are safe, hot tubs should be, too. Indeed, a study of 15 men with stable coronary artery disease showed that 15 minutes in a hot tub produced less circulatory stress than 15 minutes on a stationary bike. In addition, a study of 21 people with hypertension found that while sitting in a hot tub lowered the blood pressure, it never approached unsafe levels.

To enjoy a hot tub safely, follow the same guidelines as for saunas. And be sure the tub is clean and well chlorinated to avoid *foliculitis*, a skin infection that can result from poorly maintained hot tubs.
None of the patients developed chest pain, abnormal heart rhythms, or EKG changes with either type of stress. Heart scans did show impaired circulation to the heart muscle of most patients, but the sauna-induced changes were milder than the exercise-induced abnormalities.

Saunas appear safe for patients with stable coronary artery disease, and a small study from Japan suggested that two weeks of daily saunas may even improve vascular function in patients with stable congestive heart failure. Still, heart patients should check with their doctors before using saunas. People who can perform moderate exercise such as walking for 30 minutes or climbing three or four flights of stairs without stopping will likely get an okay, but patients with poorly controlled blood pressure, abnormal heart rhythms, unstable angina, and advanced heart failure or heart valve disease will be advised to stay cool.

**Other organs**

Although saunas affect many parts of the body, most changes are brief and mild. For example, elevated scrotal temperatures reduce sperm production, but there is no evidence that regular saunas impair fertility. The dry air does not harm the skin or lungs; in fact, some patients with psoriasis report relief from itching, and asthmatics may experience less wheezing. All in all, saunas appear safe for the body, but there is little evidence that they have health benefits above and beyond relaxation and a feeling of well-being.

**Sauna safety**

A few simple precautions are important for healthy people and heart patients alike. It is important to avoid alcohol before and after your sauna. Avoid anticholinergics and other medicines that may impair sweating and produce overheating. Don’t overdo it; 15–20 minutes of a sauna is a reasonable limit for most folks. Cool down gradually afterward; although some cultures advocate a cold plunge, it produces considerable circulatory stress and should be avoided. Drink two to four glasses of cool water after each sauna. Above all, listen to your body. Don’t take a sauna when you are ill, and if you feel unwell during your sauna, head for the door. A cool head is the best way to keep your hot sauna safe and enjoyable.

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### Grapefruit and medication: A cautionary note

Men of a certain age may recall a time when the neighborhood druggist used a mortar and pestle to formulate medications on the spot. That practice is nearly extinct in the United States, where today’s pharmacies dispense complex medications manufactured according to exacting standards. And few pharmacies could function without a computer to keep track of your medications, your allergies, and your billing information. Since you may need a large number of drugs, the computer also checks for drug interactions that could be harmful. It will also warn you whether you should avoid alcohol, and it will note whether you should take your pills with meals or on an empty stomach. It’s great progress, but there’s another important issue to consider: the interaction between certain foods and medications.

Grapefruit is a case in point. Grapefruit and grapefruit juice are healthful, providing enough vitamin C, potassium, dietary fiber, and other nutrients.

#### Grapefruit juice and medications

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