

HEALTH NEWS

NUTRITION

So what's your beef with me?

Beef producers claim that lean beef has just 1g more of saturated fat than a boneless, skinless chicken breast. Is it true and does that make steak everyday OK? JENNY STAMOS KOVACS provides some answers

RED meat has had bad press in recent years with all the anti-fat propaganda. The industry has hit back with beef producers claiming that lean beef has just 1g more of saturated fat than a boneless, skinless chicken breast. Is it true and does it give you the green light to eat a big lean piece of steak, which plenty of us would dearly love to do?

Unfortunately, no, says Dr Walter Willett, professor of epidemiology and nutrition at Harvard University Medical School of Public Health in the US. "One or two 115g-140g servings per week are unlikely to damage your health," he says. "But eaten daily, red meat is not a nutritious choice."

But just what is his beef about beef? First of all, no one is saying beef is all bad. It is a good source of minerals and vitamins, especially vitamin B12.

Although some research shows that vegetarians who watch their diet consume as much protein as meat eaters, but may be deficient in vitamin B12 unless they supplement, other research suggests that beef eaters consume higher levels of protein, niacin, vitamin B6, B12, vitamin K and zinc than those who spurn beef.

Making reasonable beef-cut choices can have a significant positive effect on intake of important nutrients in South Africans. But Willett says that choosing healthier protein sources, such as beans, eggs, dairy, fish, wheat and rice, provide your body with essential nutrients while offering better forms of fat and less or no cholesterol.

Even so, whether it's steak, roast or ground, one of the main sources of protein in western diets is (you guessed it) beef. And South Africans are shown to still be loyal to their tradition of red-meat eating whenever and wherever they can.

While one of beef's benefits is as a good source of protein, there is no reason to fork down large portions just for protein's sake. Most consumers have no problem filling their daily intake. "All you really need is around half a gram each day for every half kilo you weigh," says Dr Marion Nestle, professor of food studies and public health at New York University, and author of *What to Eat*. "That's just less than 55g for a 55kg woman and 65g for an 80kg man," she says.

For example, she says 115g of cooked meat can contain 20g to 30g of protein, while the typical 940g restaurant-style steak can provide triple that. In surveys, women report

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Beef is a good source of minerals and vitamins, especially vitamin B12, but when it is lean, it has a dirty little secret: the cholesterol you try so hard to avoid is primarily in the lean part of the meat, not the fatty part. Picture: STOCKXPERT

eating an average of 70g of protein in a sitting, while men say they eat 100g.

Nestle also says that people who answer these types of surveys tend to underestimate their real intake by as much as one-third, which means that hardly anyone needs to worry about meeting their protein needs. (Not that there's anything wrong with protein, of course, as long as you're eating it in place of other foods, not adding it on to an already calorie-rich diet.)

But is lean really better? Presumably with an eye to quelling fears about eating too much beef, adverts often focus on the value of lean

cuts of meat. But what qualifies as lean? According to some official labelling standards, that groups at least 29 cuts of beef — including eye round roast, top round steak, top sirloin steak, boneless shoulder pot roast, round pot roast, and shoulder steak.

A serving of meat can count as "lean" if it has less than 10g total fat, 4.5g or less saturated fat, and less than 95mg cholesterol per 100g serving (note the portion size: 100g, not 280g or 340g).

But the question still stands: does "lean" equal "healthy"? "Even lean cuts still have plenty of saturated fat and

cholesterol," Willett says. "There's the saturated fat in the fatty part of the meat, of course, which raises your blood cholesterol."

But lean meat has a dirty little secret, too: the cholesterol we try so hard to avoid (lest our own cholesterol shoot up higher) is primarily found in the lean part of the meat, not the fatty part. "As an example, very lean hamburger meat (5% fat) contains 62mg of cholesterol per 100g, while hamburger meat that is 25% fat contains 75mg of cholesterol per 100g," says Willett.

"By eliminating 80% of the fat (from

PROTEIN POWER

CHECK out the protein content in the foods below — and calculate what you need to meet your daily needs. The key? Half a gram each day for every half a kilo you weigh. (That's 55g for a 55kg woman and 65g for an 80kg man.)

- 1 cup stewed chicken, meat only: 43g
- 1 cup roasted turkey, meat only: 41g
- 1 cup low-fat (1%) cottage cheese: 28g
- 85g beef, top sirloin, trimmed to 1/8" fat, broiled: 23g
- 1 cup green soybeans, green, cooked, boiled, drained, without salt: 22g
- 1 cup dried couscous: 22g
- 85g smoked salmon: 16g
- 1 cup white, long-grained rice: 15g
- 1 cup beans (kidney, black, pinto, navy or lima): 15g
- 1 cup enriched yellow cornmeal: 12g
- 1 cup canned chunky chicken vegetable soup: 12g
- 225g low-fat fruit yoghurt: 10g
- 10cm cinnamon raisin bagel: 9g
- 1 cup 1% milk: 8g
- 28g Swiss cheese: 8g
- 28g peanuts: 7g
- 28g almonds or pistachios: 6g
- Large fried, poached or hard-boiled egg: 6g
- 1 cup mixed frozen vegetables, boiled: 5g
- 1 slice wholewheat bread, toasted: 4g
- 1 oat bran muffin: 4g

25% to 5%), the cholesterol drops from only 75mg to 62mg, a difference barely worth mentioning." In other words, cholesterol is still there, even though the package may say the meat is leaner.

Even so, Willett says, lean cuts are still a better choice to avoid the saturated fat that the fatty part of the meat contains.

As for the ads' claims that lean beef has just 1g more saturated fat than a boneless, skinless chicken breast — is that true? "It is true," Willett says, "but it's somewhat misleading, as only a very small part of the beef in the food supply is actually that lean."

Besides diabetes, studies link excess beef on your plate to an increased risk of heart disease, colon cancer, premenopausal breast cancer, and probably prostate cancer later in life, according to Willett. "And these apparent risks may not all be due to the saturated fat and cholesterol on everyone's minds. They could be partly due to the high amounts of iron and carcinogens created during the cooking process, or even to other components that we don't yet fully understand," he says.

Portion size is key too. "Cook beef at home instead of ordering it at a restaurant," advises Sari Greaves, a registered dietitian at Weill Cornell Medical Centre's New York-Presbyterian Hospital. "This way you'll eat the recommended 85g-115g serving, about the size of a deck of cards, instead of the 340g-570g portions commonly served at steakhouses. Even better, when eating out, choose fish, skinless poultry, or vegetarian entrees. If you absolutely must have beef, try a salad topped with thin strips of sirloin steak to keep portion size under control."

Bottom line: beef has its place in a healthy diet, but occasionally, in small portions and as lean as you can buy it. featurenet.co.za

Surfchair floats on the horizon

WORKING from home used to mean rifling through papers at the kitchen table or propping yourself up in bed with a laptop. As more people incorporate office furniture into their homes, designers are starting to improve their ranges.

The Surfchair, created by Kenneth Lylover and industrial designer Leif Sørensen from Denmark, is an ergonomic seat that mimics the shape of a relaxed internet addict, stretched out with feet propped up in an optimum position that eliminates posture-related difficulties.

Made from an aluminium and plastic frame, it is fitted with numerous pillows that support every part of the body. The monitor is smartly suspended in front of the user to prevent neck strain. The keyboard and mouse are designed to be placed as usual on the user's lap.

The chair has been featured on www.trendhunter.com, was part of the "internet collection" at the Scandinavian Furniture Fair, and even won the best product award there a few years ago.

"We recognised the increasing trend for bespoke furniture and decided to create something specific for internet users that was more tailored to an individual's needs than the ordinary desk," says Lylover.

"People like to relax while they are surfing the net so we added pillows to the design and curved the frame to provide support for the user's back."

Because the chair is aimed at a design-conscious younger generation, he wanted to make the end result eye-catching. "There has been a blurring of the lines between art and



function in interior design so we wanted the chair to look beautiful as well as be comfortable," he says.

Unfortunately for all those internet addicts seeking a perfect spot from which to surf, the release date and pricing of the chair have not been set yet. *Financial Times*

A DEVICE called a "lab-on-a-chip" could bring a new generation of instant home tests for illnesses, food contaminants and toxic gases. Today these portable, efficient tools are often stuck in the laboratory — with researchers who know how to make them from scratch.

University of Michigan engineers are seeking to change that with a 16-piece lab-on-a-chip kit that brings microfluidic devices to the scientific masses. The kit cuts the costs involved and the time it takes to make a microfluidic device from days to minutes, says Dr Mark Burns, a professor in the departments of bio-

medical engineering and chemical engineering, who developed the device with graduate student Minsoung Rhee.

"In a lot of fields, there can be significant scientific advances made using microfluidic devices, and I think that has been hindered because it does take some degree of skill and equipment to make these devices," Burns says. "This new system is almost like Lego blocks. You don't need any fabrication skills to put them together."

A lab-on-a-chip integrates multiple laboratory functions onto one chip just millimetres or centimetres in size. It is usually made of nano-scale pumps, chambers and channels etched into glass or metal. These microfluidic devices that operate with drops of liquid about the size of the period at the end of this sentence allow researchers to conduct quick, efficient experiments.

They can be engineered to mimic the human body more closely than the Petri dish does. They're useful in growing and testing cells, among other applications.

Most of the microfluidic devices that life scientists currently need require a simple channel network design that can be easily accomplished with this new system, Burns says. To demonstrate the viability of his system, he successfully grew E coli cells in one of these modular devices. He believes microfluidics will go the way of computers, smaller and more personal, as technology advances.

"Thirty or 40 years ago, computing was done on large-scale systems. Now everyone has many computers — on their person, in their house. It's

my vision that in another few decades, you'll see this trend in microfluidics," Burns says. "You'll be analysing chicken to see if it has salmonella. You'll be analysing yourself to see if you have influenza, or analysing the air to see if it has noxious elements in it." *Newswise*



YOU may soon be enjoying microwave popcorn and other "naked" foods and beverages faster than before, while saving on electricity. US and Japanese researchers have developed new ceramic materials that heat up faster and retain heat longer than conventional microwave cookware, while using less energy.

Their report is published in the latest issue of ACS' *Chemistry of Materials*, a biweekly journal.

In the new study, Sridhar Komarneni, Hiroaki Katsuki, and Nobuaki Kamochi say researchers have long sought a commercially feasible method for using microwaves in the production of new genes of sturdy-heat-resistant ceramic materials. However, no optimal process had been developed.

The scientists describe preparation of ceramic plates from mixtures of magnetite and petalite, two naturally occurring minerals. Those new composite plates heated faster and retained heat for longer periods than commercially available microwave cookware, researchers say. The materials also show promise as an energy-saving component in microwave-based systems for cleaning up organic toxic waste in the environment. *Science Daily*



The Surfchair is an ergonomic seat that mimics the shape of a relaxed internet addict, stretched out with feet propped up in an optimum position that eliminates posture-related difficulties.

AUSTRALIAN scientists are developing new wireless technologies for locating, tracking, sensing and communicating in areas where global positioning systems (GPS) do not work. The new high-accuracy terrestrial localisation systems are suitable for applications as diverse as tracking workers in emergency situations to following cyclists

racing around a track.

The Commonwealth Scientific and Industrial Research Organisation is developing the technology for emergency purposes with other agencies.

The new high-accuracy terrestrial localisation systems use radio frequency tracking technologies and aim to be cost effective.

They consist of a network of wireless nodes which can be combined

with sensors to enable monitoring of environmental variables.

Research scientist Dr Mark Hedley says emergency personnel sent into a dangerous situation could, for instance, wear sensors that monitor their heart rate and core temperature, and gas or radiation levels in the surrounding environment.

"Exact readings can then be provided back to a base station," Hedley says. *Science Daily*