

By **Caroline Bellamy**

Pellets for prostate cancer ... particles targeting tumours ... fine thread woven into facelifts ... golden wires in pacemakers

# Medicine is going for



**T**hroughout history, gold has been revered for its health-giving properties. It is thought Cleopatra slept in a pure gold face mask to enhance her bewitching beauty, and in ancient Rome, gold salves were used to treat a variety of skin problems.

They may have been on to something. Today, the precious metal is becoming increasingly important in many modern medical - and beauty - treatments.

'Gold is very resistant to bacteria and so is often the material of choice for implants that are at risk of infection, such as in the inner ear,' says Dr Richard Holliday, of the World Gold Council. 'It's used in wires for pacemakers and for stents that help support weak blood vessels in the treatment of heart disease. In fact, many surgeons prefer gold-plated stents because they have the best visibility under X-ray.'

'A new surgical procedure for prostate cancer involves inserting three gold grains into the prostate. The position of the gold grains can be detected using X-rays, allowing doctors to target the prostate position within one or two millimetres.'

The use of gold compounds in medicine is called chrysotherapy. Since 1929, when a French doctor discovered its anti-inflammatory properties, gold compounds in drugs have been used to treat rheumatoid arthritis. Scientists do not know how it works but some believe gold - injected with the drug Myocrisin, usually through the buttocks or thigh - modifies the immune response in those with the disease.

However, as an injectable treatment, it's only ever recommended if all else has failed, as some people have suffered side-effects, including mouth ulcers, kidney problems and skin rashes.

In the past few decades, gold compounds have also been found to be useful as potential HIV agents and even cancer treatments.

'Although not all cancer drugs contain metal, the most widely used treatments for many types of cancers are drugs such as cisplatin, whose chemical formula contains platinum. The drug, which is injected into the patient, kills the cancer cells but also harms some of the healthy cells, which is why side-effects such as hair loss occur,' says Dr Holliday.

'But researchers at a US biotech company have found that potent anti-cancer drugs can be safely targeted directly at a tumour using tiny gold particles to deliver the drug with

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reduced side-effects. Clinical trials are already under way.'

Another US company is developing a therapy using gold nanoshells (tiny particles of gold wrapped around silica) that are injected into the body and then accumulate in the cancerous tumour. The area is then illuminated with a laser and the gold nanoshells convert the light to heat. This destroys the tumour. The company is hoping to commence human trials for the treatment of head and neck cancer soon.

As for HIV treatments, last month researchers at North Carolina State University discovered that tiny gold particles added to a previously failed HIV drug could rekindle the drug's ability to stop the virus invading the body's immune system.

But as well as its health benefits, gold has been used for centuries in beauty treatments for younger

For more gold body treats go to [www.mailonsunday.co.uk/gold](http://www.mailonsunday.co.uk/gold)

looking skin. Although there are few scientific studies to support its benefits when it comes to beauty, advocates of gold therapies claim it works wonders.

'Gold appears to slow down collagen depletion and the breakdown of elastin to prevent sagging skin,' claims Kathryn Danzey, who supplies salons with the Umo 24 Karat Gold Facial Treatment, developed in Japan.

**S**he adds: 'It stimulates cellular growth of the deepest layer of the skin to regenerate healthy, firm skin cells and provide a tightening effect. Its anti-inflammatory properties are also thought to decrease skin inflammation and seem to slow down melanin secretion and thus reduce age spots. The skin looks wonderful afterwards.'

In 1999, a Russian doctor at the Vishnevsky Institute in Moscow conducted a series of studies on the

long-term effects of implanted gold threads. This procedure has gained popularity in Russia and in Japan.

Today, Dr Alexandra Chambers, a cosmetic doctor in Harley Street, is one of the few surgeons in Europe to provide Gold Thread Lift skin rejuvenation treatment that can be used

on the face, neck, décolletage, hands, arms, legs, abdomen and even the buttocks. Under local anaesthetic, gold filaments are threaded within the skin to create a 'net-like' structure under its surface.

'This network provides a mechanical support to the overlying skin and triggers production of collagen and elastin fibres around the thread,' she says. 'New blood vessels appear in the area, skin becomes firmer and thicker with a better blood supply. It can be effective for up to ten years.'

For a less drastic procedure, London-based facialist Linda Carter offers anti-ageing acupuncture facials using gold-plated needles. 'My clients say they are much more comfortable during treatment,' she says. 'I also like to use them on those who are allergic to stainless steel.'

● Gold Thread Lift Treatments with Dr Alex Chambers start at £1,800. 0845 6588540.

## DOCTOR DOCTOR

**Q** Do potatoes count as part of my five a day?

**A** Unfortunately not. They are part of the starchy food group along with bread, rice and pasta. A good five-a-day table is on the Food Standards Agency website, [www.eatwell.gov.uk](http://www.eatwell.gov.uk)

## 15 MINUTES A DAY WILL BANISH BINGO WINGS FOR GOOD

Dreading exposing your upper arms this summer? This simple routine, devised by London-based personal trainer Fernando Lee, takes just 15 minutes a day to rid flapping upper arm flab - bingo wings. You need light weights, such as tins of beans, but if you can manage weights of about 3-4kg, the results will be better and faster. Allow one or two minutes rest between each set of repetitions.

● Fernando Lee runs women-only fitness bootcamps and corporate wellbeing workshops. See [www.miraclefitness.net](http://www.miraclefitness.net).



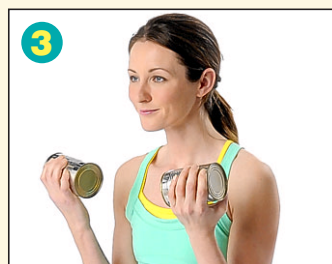
### 1 CONCENTRATION CURLS

15 repetitions. 2-3 sets  
Sit on the end of a chair with your legs apart and lean forward at a 45-degree angle. Keep your spine well aligned; don't allow it to tense. Hold a weight in one hand with your palm facing upward and rest your elbow on the inside of your thigh letting the weight hang. Slowly curl the weight up, keeping your elbow locked in place against your thigh. Squeeze the muscle at the top of the movement for a one-count. Slowly return to the start position and repeat.



### 2 SEATED OVERHEAD TRICEP EXTENSIONS

15 reps. 2-3 sets  
Sit on a chair with your feet flat on the ground, your back long and your abdominals engaged. Lift the arm holding the weight above your head, keeping it near the head, with the elbow facing more forward than outward. With your free hand, hold on to the opposite upper arm to keep it in place. As you breathe in, lower your weighted arm towards your back. Breathe out as you return your arm to the starting position.



### 3 BICEP CURLS

15 reps. 2-3 sets  
Stand with your feet hip-width apart, with your knees slightly bent. Your abdominals should be engaged and keep your back nice and long - don't hunch. With your arms alongside the body and your palms facing upward, curl the weights up and down alternately. Keep the upper arms still, do not let them move back and forth. Keep the chest open, avoid rounding or hunching the shoulders. Do not rock back and forth with the upper body.



### 4 TRICEP KICKBACKS

15 reps. 2-3 sets  
Lean forward at the hips keeping the back long. Place one hand on your leg for support - or use a table - and keep the other arm alongside the body. The upper arm should be parallel to your ribcage, bending at the elbow. Extend the arm at the elbow until it is straight. Return and repeat. Avoid rounding your back or drooping the shoulders. And try to keep the abdominals engaged, the back long and the chest open.



### 5 CHAIR DIPS

15 reps. 2-3 sets  
Perch on a chair, placing your hands on the edge close to your bottom. Support your bodyweight as you take your bottom off the seat. Keep your body near the chair and your spine long. Your feet should be flat on the ground and in line with your knees. Inhale, bend your elbows and lower your body until your upper arms are parallel to the floor. Breathe out and push yourself back up. Don't allow your elbows to flare outwards.