

# Living donor liver transplant: Not mere a dream away

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With the increasing incident of liver diseases, there is a pressing need for liver donors. However, there is a critical shortage of cadaveric donor livers for transplantation in the world. For today's patients in need of liver transplantation, the hope lies in living donor liver transplantation (LDLT). It is not mere a dream now-a-days.

With the rapid advance of medical technology and the increasing clinical confidence and skills of today's surgeons, the highly complicated LDLT procedure has produced excellent results. Today, patients with end-stage liver disease have more choices than to wait, sometimes indefinitely, for cadaveric donors.

**The shortage of cadaveric livers for transplant**

There is an extreme shortage of living donors for liver transplantation. However, the demand may be sometimes meet up by near and dear ones with a good match of blood and other considerable factors.

**The need for LDLT**

Initially, segments of livers from living adults (in most cases the donors were the parents) were transplanted into children with terminal liver disease. With the expertise and experience gained

by doctors, this procedure has been expanded to include adult recipients.

**Milestones achieved by our team**

**1991:** The first split liver transplant in UK

**1992:** The first auxiliary liver transplant for liver failure in UK

**1993:** The second auxiliary liver transplant for metabolic disease in the world

**1993:** The first living donor liver transplant in UK

**1995:** The first living donor liver transplant in Southeast Asia

**1997:** The second split liver transplant in Asia

**2002:** The first adult-to-adult living donor liver transplant in Southeast Asia.

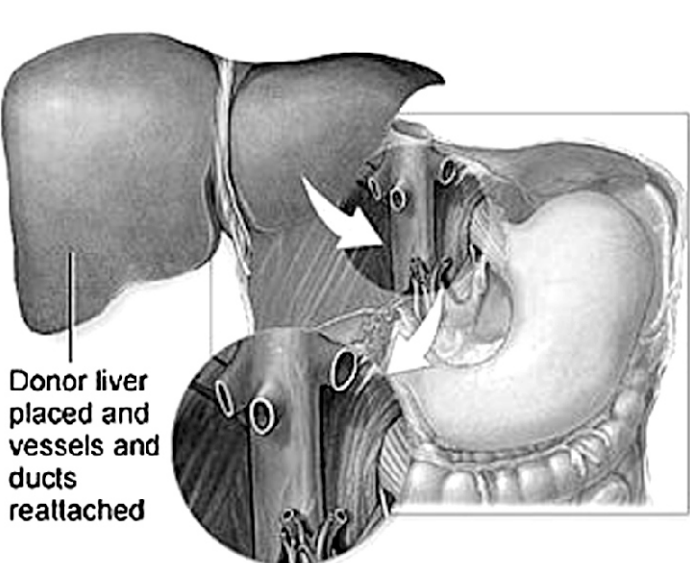
**The procedure**

**How it is done:** The human liver comprises eight segments, each with its individual blood supply and bile drainage. Individual segments or a combination of segments (the right or left lobe) are retrieved from the living donor and transplanted into the patient. The remaining liver in the donor will regenerate and replace its size and function within four to six weeks. Similarly, the transplanted liver segments in the patient will regenerate rapidly.

Two team members of doctors will perform the donor and recipient operations almost simultaneously. About half the donor liver will be removed; the gallbladder

will be removed as part of the surgery.

Once the diseased liver is removed from the recipient, the liver graft which had been retrieved earlier from the donor is implanted. Both halves of the liver will regenerate and grow to full size in four to six weeks. The



donor operation usually takes six to eight hours and the recipient operation eight to ten hours.

The donor is nursed in the intensive care unit for 24 hours and should be out of bed with assistance after two to three days.

The donor is hospitalised for

six to eight days and should be able to resume most light home and work activities within one month, depending on the recovery.

The donor is expected to be closely reviewed by the surgeons over the next several weeks and then as required. There is no

will be closely monitored for infection, rejection and regeneration of the transplanted liver.

**Patient education**

**Basic facts for the recipient:** Patients considered for living donor liver transplantation are those with end-stage liver disease who would be listed for a cadaveric donor liver (those from a brain-dead individual). They usually suffer from conditions like jaundice, recurrent encephalopathy, bleeding esophageal varices, intractable ascities, unacceptable quality of life like severe weakness, itch etc., certain unresectable cancers of the liver.

**Basic facts for the donor:** The donor should be a close relative or emotionally related to the recipient. The donor must be older than 18 years and in good mental and physical health. In addition the donor must be of the same of the compatible blood group to the recipient. The donor must be free from HIV infection, chronic viral hepatitis B and C, significant medical illness, active alcoholism and pregnancy.

**What are the risks to the donor?**

The most common complications are pain, bleeding and infection. Others would include pneumonia, bile leakage, deep vein thrombosis and embolism to the lungs. The risk of death has been estimated to be between 0.1% to

0.5%.

**The donor evaluation process: Who is suitable to be a donor**

The prime purpose for the extensive donor evaluation process is to minimise the risk to both the donor and the recipient. It ascertains that the donor is in good mental and physical health, and that the portion of the liver to be retrieved is suitable for the recipient. The process comprises the following steps and each must be completed before proceeding to the next.

During the period, the donor will be commenced on iron medication and injected with Epogen, a red blood cell stimulant. Blood will be obtained for autologous transfusion in the peri-operative period.

**Where to seek the LDLT programme**

Conveniently located in Singapore, Gleneagles Hospital is a leading private hospital that provides an extensive range of healthcare facilities for Singaporeans and overseas patients.

With the development of a LDLT programme in Gleneagles Hospital, both adult and paediatric patients with end-stage liver diseases, particularly foreigners, will have the opportunity of a liver transplant where there was little hope previously.

## Vitamin concern

### Vitamin C for ulcers



High blood levels of vitamin C are associated with a 25 per cent decreased risk of infection with *Helicobacter pylori*, the bacteria commonly responsible for peptic ulcers.

### Vitamin D for gums



Getting enough vitamin D may keep your gums healthy, according to a study of more than 11,000 people.

Researchers measured how much the participants' gums were attached to their teeth. (Separated gums are a sign of periodontal disease, which can lead to tooth loss.) Among people aged more than 50 or older, those with lower levels of vitamin D in their blood lost 27 per cent (male) and 23 per cent (women) more gum attachment than those with higher

levels.

The researchers suggest that vitamin D works by curbing inflammation in the gums rather than by strengthening bone density, because gum attachment was not linked to the density of the participants' bones.

Best source of vitamin D is sunshine. Older people whose skin becomes inefficient at synthesising the vitamin from sunlight, will probably need a multivitamin, calcium+vitamin D supplement as well.

### Vitamin E vs. colds

Vitamin E may help prevent colds. Tufts University researchers gave vitamin E (200 IU of d1-alpha-tocopherol) or a placebo to 451 nursing home residents aged 65 to 103 (the average was 85). All participants also got a multivitamin that contained half the recommended daily allowance for most nutrients. While the vitamin

had no impact on bronchitis, ear infections, flu-like infections, pneumonia, sinus infections, or sore throats after one year, E takers were 19 per cent less likely to have caught a cold than the placebo takers.

So you have one more weapon against cold apart from vitamin C and zinc lozenges.



### Vitamin E may help ease menstrual cramps

Women may find some relief from menstrual cramps by taking vitamin E a few days a month, new research suggests.

The study, of teenage girls in Iran, found that those who took vitamin E starting two days before their periods suffered far less cramping than their peers who used only standard pain medication. After four months, the girls who took vitamin E had cramps for less than two hours, on average, during their periods. That compared with 17 hours for those who did not take the vitamin.

Common menstrual cramps, or primary dysmenorrhea (painful menstruation), are thought to result from the release of hormone-like substances called prostaglandins. Prostaglandins cause the uterus to contract in order to expel the uterine lining, resulting in menstrual blood flow. Vitamin E, by acting on two enzymes in the body, can inhibit the formation of prostaglandins -- and, potentially, menstrual cramps, according to Dr. Saeideh Ziaei and her colleagues at Tarbiat Modares University in Tehran who led the study.

To investigate, the researchers randomly assigned 278 girls, 15 to 17 years old, with primary dysmenorrhea to take either vitamin E or an inactive pla-

cebo pill. Girls in the vitamin E group took 200 milligrams (mg) of the vitamin twice a day, starting two days before they expected their periods and continuing through the third day of menstruation. Both groups were allowed to take ibuprofen if they needed to.

After four months, girls in the vitamin E group showed a sharp reduction in the number of hours they suffered cramps each month. Few (4 percent) reported using ibuprofen, compared with 89 percent of girls in the placebo group. Girls in both groups tended to say their periods got lighter during the study period, but the change was greater in the vitamin group, according to Ziaei's team.

The dose of vitamin E used in the study (200 mg twice a day) is significantly higher than the recommended daily intake of 20 mg, but still well within the range that experts consider unlikely to cause adverse effects. U.S. health officials set the "upper tolerable intake level" for vitamin E at 1,000 mg per day.

The use of vitamin E for dysmenorrhea in adolescent women is attractive, because of the marked effect have been demonstrated, coupled with the absence of significant side effects from vitamin E at therapeutic doses.

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Source: British Journal of Gynecology

## Green tea may curb prostate cancer in men at risk



Researchers have shown that compounds found in green tea may prevent the development of prostate cancer in men with a pre-cancerous condition called high-grade intraepithelial neoplasia (PIN).

High-grade PIN progresses to invasive prostate cancer within a year in about 30 percent of men and no treatment is given to these men with high-grade PIN until prostate cancer is diagnosed.

Green tea catechins (GTCs) may be the answer, Dr. Saverio Bettuzzi from the University of Parma in Italy said at the gathering of the American Association for Cancer Research.

The investigator performed a trial involving men with high-grade PIN, who were given an inactive placebo preparation or one containing 600 milligrams of GTCs daily, "equivalent to 12-15 cups of green tea infusion, that is about two times the average intake in Asian countries."

Bettuzzi reported that, after a year, only 1 man among 32 in the GTC group developed prostate cancer, a rate of only 3 percent. In contrast, 9 out of 30 men

treated with placebo developed prostate cancer, for the expected rate of 30 percent.

"To our knowledge, this is the first study showing that GTCs have potent in vivo chemoprevention activity for human prostate cancer," Bettuzzi noted.

"The interest in GTCs and other polyphenols -- antioxidants found in many plants -- derives from traditional Chinese medicine, but the Mediterranean diet is very rich in vegetables, thus providing high levels of polyphenols, and lower rates of prostate cancer are found in that region as well," he pointed out.

"There are other studies strongly suggesting that similar results could be obtained for prevention of other types of cancer. As a matter of fact, breast and colon cancer are possible targets. In the near future, we are supposed to start a collaborative trial involving both Italy and USA on this matter," Bettuzzi concluded.

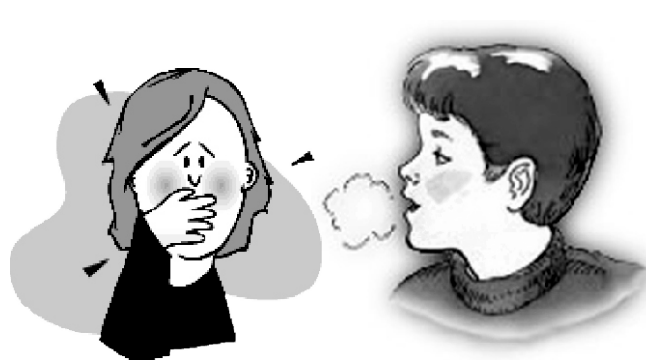
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Source: <http://www.reuters.com>

## Help for halitosis or bad breath

Foods can cause bad breath; garlic and onions are classic examples. Reflux of stomach contents can do the same, as can serious diseases of the liver and kidneys. But the usual culprits are oral bacteria.

"Morning breath" is caused by breathing through the mouth during sleep; saliva dries out, allowing bacteria to multiply and produce bad -smelling gases. Any medication or condition that reduces saliva flow can do the same. Similarly, periodontal disease often gives bacteria an unwelcome edge, and bacteria in the sinuses or tonsils can sometimes pitch in. But in many cases bacteria that are present in every healthy mouth get the



upper hand and cause halitosis (condition where a person has breath with smells unpleasant). If you have bad breath, here is what to do --

- λ Keep your saliva flowing.

Drink plenty of water, chew gum (sugarless, please), and avoid antihistamines and other medications with anticholinergic actions that dry the mouth.

- λ See a dentist regularly and get

prompt treatment for any problems.

- λ Practice meticulous oral hygiene by flossing (to clean the teeth with soft thread which can be pulled between the teeth to help keep them clean) regularly and brushing teeth and tongue diligently.
- λ Don't smoke or chew tobacco.
- λ Use an antibacterial mouthwash.
- λ Keep breath mints on hand for a quick, if temporary, cover-up.
- λ Relax. Halitosis is a common problem and it is usually much less bothersome to other people than to the person with bad breath.

### MEDICAL MYSTERY

## IQ related brain areas may differ in men, women

While neither men nor women may be the more intelligent sex, their brains may take different paths to reach the same intellectual level, according to one team of researchers.

Their study found that among men and women who performed equally on intelligence tests, women had far more intelligence-related white matter in their brains than men did, while men surpassed women when it came to intelligence-related gray matter.

Gray matter can be seen as the brain's "information processing centers," whereas white matter is like the wiring connecting those centers, said Dr. Richard J. Haier, a professor of psychology at the University of California, Irvine, and the study's lead author.

The findings, he told, suggest that women and men may have "fundamentally different brain architectures" underlying intelligence. "It has nothing to do with men being more intelligent than women, or women being more intelligent than men," Haier said.

Instead, according to the researcher, men and women may draw upon different brain designs to arrive at the same intellectual capacity. That possibility is of more than a scientific interest, Haier noted; it could help researchers better understand

sex differences in stroke and degenerative brain diseases like Alzheimer's disease.

The study involved 48 men and women between 18 and 84 years old who took a standard battery of IQ tests and had MRI brain scans to gauge the volume of white and gray matter in different brain areas related to intelligence.

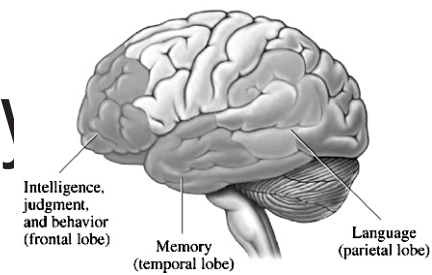
Overall, the researchers found, men and women performed equally on the IQ tests. However, the brain structures involved in intelligence appeared distinct.

Compared with women, men had more than six times the amount of intelligence-related gray matter, while women had about nine times more white matter involved in intelligence than men did.

In addition, women had a large proportion of their IQ-related brain matter -- both white and gray -- concentrated in the brain's frontal lobes, a region at the front of the brain involved in movement, emotions and higher functions such as speech, reasoning and judgment.

Men, on the other hand, had 90 percent of their IQ-related gray matter distributed equally between the frontal lobes and the parietal lobes -- a region right behind the frontal lobes involved in sensory perception, such as taste and touch, and skills, such as reading and math.

In addition, the large majority of the



men's IQ-related white matter -- 82 percent -- was found to dwell in a third brain region, the temporal lobes. These lobes govern functions such as perceiving sound and processing memories.

According to Haier, the fact that women's IQ-related brain matter was more centralised in the frontal lobes may help explain why strokes affecting this brain area appear to inflict more damage in women than men.

Whether the different brain designs translate into differences in specific intellectual skills, like math or language, is unknown. It's possible, according to Haier, that the findings offer one explanation for the stereotypical male predilection for numbers and spatial questions and female preference for language.

But, as he pointed out, that's a complex and controversial issue.

When it comes to sex differences found in the brain, though, the degree to which they are inborn is not necessarily clear. As Haier and his colleagues note in their report, there is evidence that the volume of the brain's gray matter can increase with learning, and therefore may be a matter of environment as well as genes.

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Source: NeuroImage