



with 2 in the midtrimester group. Of 60 women in the early-amniocentesis group who experienced an amniotic fluid leak after the procedure, the number of talipes equinovarus deformities was 9 (15% of 60), compared with 19 (1.1% of 1735) when no leakage occurred. Wilson says the high number of clubfoot deformities in the latter group was “a surprise.”

Only 0.01%, or 2 babies, were born with the clubfoot deformity in the midtrimester group, which represents the normal incidence of 1 to 3 for every 1000 births.

Other congenital abnormalities found in other studies of early amniocentesis did not materialize in this trial. The total fetal losses after 20 weeks of pregnancy were equal in both groups. However, there was a slightly higher miscarriage rate in the early-amniocentesis group before 20 weeks. — © Heather Kent

## Phantom of the thalamus

Phantom limb sensations are very real and arise because cells in the thalamus still “remember” the amputated limb, researchers from the University of Toronto and the Toronto Hospital have reported (*Nature* 1998;391:385). Their ground-breaking findings may help lead to novel strategies to treat phantom limb pain, which can be intense and unrelenting and affect people 30 years or more after an amputation.

Dr. Andres Lozano, one of the researchers and an associate professor of surgery, said the team “mapped” the thalamus in 6 patients, some with pain in the stump of the lost limb and some with phantom sensations. Electrodes were placed through the brain into the thalamus and stimulated. Patients were awake during the procedure

and reported what they felt after each stimulation.

“There’s a map in the thalamus, a representation of each body part,” explains Lozano. “After an amputation, it appears that the cells have conserved a memory of the missing body part. The cells that previously served the part that has been amputated become unemployed and start to fire in an abnormal pattern, which is interpreted as pain.”

The research has many implications for understanding how pain arises after an injury and how the brain recovers. “Once a body part is missing, the neurons in the brain can change their roles. When they are no longer needed, they take on novel responsibilities.” Lozano likens this process to the brain changes observed during the learning process, when the brain “rewires” itself to take on new functions.

The work may also give greater hope for treatment. Lozano points out that phantom limb pain is notoriously difficult to treat. He says that there are 75 published treatments and no gold standard. Treatment to “silence” or “paralyse” the aberrant activity of the thalamus and block the pain may be possible, although this could involve neurosurgery.

He reports that many patients are happy to hear that the reason for their pain has been found. “They say, ‘Thank goodness that you found this. I thought I was crazy.’ They are reassured that there’s a physiologic explanation for the pain.” — C.J. Brown

## In the news . . .

### **Children’s breathing and parents’ smoking**

Exposure to secondhand smoke in the home increases the risk of

asthma, wheezing and chronic bronchitis in children up to 5 years of age, a large population-based cohort study conducted in the US has determined (*Pediatrics* 1008;101 [2]:8). Twenty or more cigarettes smoked in the house per day increased this risk. However, secondhand smoke did not have an effect on the rate of upper respiratory tract infection, pneumonia or cough.

### **Heavy periods sign of bleeding disorder**

Menorrhagia can have many causes, but a British study has found that many women with menorrhagia that was not otherwise explained had an inherited bleeding disorder (*Lancet* 1998;351[9101]:485-9). Seventeen per cent of women tested had von Willebrand’s disease, and another 4% had Factor IX deficiency. The researchers recommend investigating women with menorrhagia for these disorders before conducting invasive procedures.

### **Watch the Twinkies!**

The risk of death from cancer is significantly associated with energy intake in childhood, results from a longitudinal study of people whose family diet and health were surveyed from 1937 to 1939 indicate (*BMJ* 1998;316[7130]). The study of almost 4000 British people found that there was a clear but modest increase in the risk of dying from cancer as childhood energy intake rose. Other risk factors for cancer were taken into account, and the effect was limited to types of cancer not caused by smoking. The study emphasizes the importance of proper nutrition and, if necessary, limits to energy intake for children.