Could rotavirus cause encephalitis in children? In California (Clinical Infectious Diseases 2001;33:932–8) two children with rotavirus diarrhea developed encephalopathy and had rotavirus RNA in their cerebrospinal fluids. Whether the virus was a true CNS pathogen or a contaminant in each case is uncertain. A retrospective analysis of hospital discharge data suggested that 7% of children with bacterial diarrhea, but less than 4% of children with rotavirus diarrhea, had seizures during the episode. In all, some 19 children with possible rotavirus infection of the central nervous system have been described since 1978, including a case report in this journal in 1986.

Very obese children have stiff arteries and evidence of endothelial dysfunction. In Paris (Lancet 2001;358:1400–4) 48 children (aged 4–16 years) with severe obesity (body mass index 3–8 SDs above the mean) were compared with 27 control children. Ultrasound imaging of the carotid artery showed reduced arterial compliance and distensibility. Endothelial dysfunction in the obese children was indicated by reduced brachial artery dilation in response to reactive hyperaemia (endothelium dependent) and to glyceryl trinitrate (endothelium independent).

**Metapneumovirus** is a genus of the subfamily *Pneumovirinae* (which includes the respiratory syncytial virus) of the family *Paramyxoviridae*. Until recently there has been only one known metapneumovirus, the avian pneumovirus which causes rhinotraceitis in turkeys. Now researchers in Rotterdam (Nature Medicine 2001;7:719–24) have isolated a paramyxovirus from nasopharyngeal aspirate samples from 28 children and provisionally assigned it to the *Metapneumovirus* genus calling it human metapneumovirus. Of the 26 children whose ages were known 13 were infants and 12 were aged 1–5 years. Their clinical features were similar to those of respiratory syncytial virus infection and included upper respiratory tract infection, bronchiolitis and pneumonia. The virus appears to be ubiquitous since all of 60 people aged 5 years or over, including 20 aged 5–10 years, proved seropositive. Testing of saved sera showed that this “new” virus has been around for at least 50 years.

Six children aged 7–35 months with refractory autoimmune haemolytic anaemia were treated with intravenous infusions of rituximab, a monoclonal antibody against CD20 (Lancet 2001;358:1511–3). All responded and were in complete remission 15–22 months after the start of rituximab treatment. B-cell deficiency and hypogammaglobulinaemia occurred in all patients and lasted for about 9 months. Prophylactic intravenous immunoglobulin was given during this period.

**Vitamin D affects cell differentiation and proliferation and is immunosuppressive in vitro.** A study in northern Finland (Lancet 2001;358:1500–3; see also Commentary, ibid 1476–8) has added to evidence that vitamin D deficiency in infancy may increase the risk of later type 1 diabetes. Regular vitamin D supplementation in infancy reduced the risk of type 1 diabetes before the age of 31 years by 88% compared with no supplementation and regular supplementation with the recommended dose (2000 IU daily) reduced the risk by 78% compared with regular supplementation with a smaller dose. A clinical suspicion of rickets in infancy increased the risk threefold.

A study at King’s College Hospital, London (Lancet 2001;358:1665–7; see also Commentary, ibid 1658–9) has demonstrated a new first trimester ultrasonographic marker for trisomy 21. Fetal nasal bone was undetectable on ultrasound screening at 11–14 weeks gestation in 43 of 59 (73%) fetuses with trisomy 21 and 3 of 603 (0.5%) fetuses with normal chromosomes. It is estimated that adding this test to screening by maternal age and fetal nuchal translucency in the first trimester could increase the sensitivity for trisomy 21 from 75% to 85% while reducing the false positive rate from 5% to 1%. Nasal bone was also undetectable in 11 of 20 fetuses with trisomy 18 and two of eight with Turner’s syndrome.

**Congenital agenesis of hemidiaphragm** is a rare anomaly with a relatively poor prognosis. Conventional repair is with a synthetic patch but recurrent herniation, chest wall deformity, and poor lung function are common sequelae. Now surgeons in New Zealand (Journal of Pediatric Surgery 2001;36:1637–40) have had good results in two patients, after failure of a synthetic patch, by using a reverse latissimus dorsi flap with or without incorporation of serratus anterior and phrenic-thoracodorsal nerve anastomosis.

Even fairly small amounts of exercise can improve bone composition in adolescent girls but the timing of the exercise in relation to puberty may be important. In Texas (Journal of Pediatrics 2001;139:494–500) 30–40 minutes of resistance training three times a week for 15 months produced a significant increase in femoral neck bone mineral density in 14–17 year old girls and young women compared with controls. In British Columbia however, (Journal of Pediatrics 2001;139:501–8) 10–12 minutes of high impact, weight-bearing exercise three times a week in addition to usual physical education classes significantly increased bone mineral content at the femoral neck and lumbar spine in early pubertal, but not prepubertal, girls compared with controls.

Extensive toxic epidermal necrolysis (TEN) is life-threatening. In Galveston, Texas (Pediatrics 2001;108:1162–8) eleven children with severe drug induced TEN (>30% surface area involved) were treated with early debridement and human skin allografting. One 9 month old infant, with 73% body surface area involvement, died. None developed wound infection. Eye problems including photophobia, chronic conjunctivitis sicca, conjunctival synechias, and recurrent lacrimal cysts were common on follow up.

Combination antiretroviral treatment including a protease inhibitor is effective for children and adolescents with HIV-1 infection just as it is for adults. In a large multicentre American trial including patients up to the age of 20 years (New England Journal of Medicine 2001;345:1522–8, see also Commentary, ibid 1568–9) such treatment was received by 7% of patients in 1996 and by 73% in 1999. Annual mortality was 5.3%, 2.1%, 0.9%, and 0.7% in successive years, 1996–99. Overall, combination treatment was associated with a 67% reduction in mortality.

Asthma is one of the stated indications for immunisation against influenza but take up has been low and the safety of the vaccine in people with asthma has been questioned. In a US crossover trial (New England Journal of Medicine 2001;345:1529–36) including 1952 people aged 3–64 years with asthma (712 children) the rates of exacerbation were almost the same (29% v 28%) in the 2 weeks after inactivated influenza vaccine or placebo injections. The findings were similar in subgroups defined by age or asthma severity. The authors of the report conclude that everybody with asthma should be vaccinated against influenza annually.