asked her to touch his penis. The sweets were a bribe to keep the secret. I was shocked. Was this child sexual abuse in our house? Only a few weeks earlier I had attended a day's workshop on child sexual abuse and learnt that it usually occurred within the household—perpetrated by an older member of the family who often used bribes.

I decided that I must challenge my son straight away, and the same evening I questioned him in the most non-accusatory voice I could muster. He didn't say much and denied the part involving my daughter touching him. I wasn't too surprised so did not press him further but concluded our talk with the advice that it was not appropriate to do this with his sister, who was much younger than him. From then on I made sure the two of them were not left alone together. I was alone at the time as my husband was working abroad. I shared my concern with a close friend (a paediatrician and mother), who supported my action. When I did tell my husband on his return I found him unhelpful. He would make no comment, nor would he talk further to our son. However, he has never talked to our son about sexual concerns, and when our son was 17 and met a girl it was I who watched the relationship develop into a caring and sexual one, I who advised on birth control, and I who insisted that they did not sleep in the same bedroom in our house.

We have all undergone our sexual development and have all had sexual experiences good and bad. We are talking about it more, especially in schools, but sadly not enough—not enough to little children when they are receptive to discussion about their bodies, not enough to growing children so that they know they can talk about what is happening to them, and not enough so that when they are adult they can confide in others if they are having problems. Perhaps if more families could be more open about sexuality there would be fewer problems of sexual and related abuse. These problems could and should be prevented.

1 Stop, look, listen. *BMJ* 1992;305:838-9. (3 October.)

Site of injection for vaccination

EDITOR,—Mark Henley correctly states that the anterolateral aspect of the thigh is an acceptable alternative to the upper arm for injecting hepatitis B vaccine.¹ But his assertion that the only indications for administering the vaccine in the upper arm are convention and convenience is misleading. The reason why public health bodies recommend that hepatitis B vaccination should be given in the upper arm is to prevent vaccine being administered into the buttock.

There are over 100 reports of unexpectedly low antibody seroconversion rates after hepatitis B vaccination by injection into the buttock, confirmed by studies carried out at the Royal Free Hospital.² In one centre in the United States a low antibody response was noted in 54% of healthy adult health care staff. Many studies have since shown the antibody response rate to be significantly higher in centres using deltoid injection than centres using the buttock. On the basis of antibody tests after vaccination, the advisory committee on immunisation practices of the Centers for Disease Control recommended that the arm be used as the site for hepatitis B vaccination in adults,³ as have the departments of health in the United Kingdom.⁴

A more recent comprehensive study by Shaw *et al* showed that participants who received the vaccine in the deltoid had antibody titres that were up to 17 times higher than those of subjects who received the injections into the buttock.⁵ Furthermore, those who were injected in the buttock were two to four times more likely to fail to reach a minimum antibody level of 10 mIU/ml after vaccination. Recent reports have also implicated

buttock injection as a possible factor in a failure of rabies postexposure prophylaxis using human diploid cells rabies vaccine.⁶

The injection of vaccine into deep fat in the buttocks is thought likely with needles shorter than 5 cm, and there is a lack of phagocytic or antigen presenting cells in layers of fat. Another factor may involve the rapidity with which antigen becomes available to the circulation from deposition in fat, leading to delay in processing by macrophages and eventually presentation to T and B cells. An additional factor may be denaturation by enzymes of antigen which has remained in fat for hours or days. The importance of these factors is supported by the finding both at the Royal Free Hospital and by Shaw *et al*⁵ that thicker skinfold was associated with a lowered antibody response.

These observations have important public health implications, well illustrated by the estimate that about 20% of subjects immunised against hepatitis B via the buttock in the United States by March 1985 (about 60 000 people) failed to attain a minimum level of antibody of 10 mIU/ml and were therefore not protected.

We strongly urge that hepatitis B surface antibody titres should be measured in all people who have been immunised against hepatitis B by injection into the buttocks, and when this is not possible a complete course of three injections of vaccine should be administered into the deltoid muscle or the anterolateral aspect of the thigh, the only acceptable sites for hepatitis B immunisation.^{7,8}

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Dyspnoea in palliative care

EDITOR,—Opioid drugs used to control both pain and dyspnoea in palliative care do not, by any means, always hasten death. A recent review of the treatment of intractable dyspnoea is both informative and interesting¹ but, as Minerva points out, makes "rather depressing" reading.² The paper is not, in fact, a comprehensive review of the literature.

Though there is good evidence that single doses of morphine cause a deterioration in blood gas concentrations, the same is not true for long term treatment. Gray *et al* reported no difference in opiate consumption between patients with chronic lung disease who developed respiratory failure and those who did not.³ Furthermore, in a study of 20 terminally ill patients (including 12 with chronic airflow limitation) receiving regular oral morphine in doses exceeding 100 mg morphine sulphate/24 h Walsh found a raised arterial carbon dioxide concentration in only one.⁴ New routes of administration have been investigated, and anecdotal

evidence and one published report indicate the efficacy of low dose nebulised morphine in breathlessness.⁵

In palliative care dyspnoea is often regarded as the poor relation to pain. The results of current research, however, are encouraging and should lead to therapeutic advances and improvements in patients' quality of life.

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Faecal incontinence

EDITOR,—E S Kiff's article on faecal incontinence rightly says that impaction of faeces in elderly people is a cause of faecal incontinence and diarrhoea.¹ A diagram indicates that impaction is caused by hard faeces in the rectum. This is often so, but in my long experience of geriatrics I have found "soft" impaction—in which the rectum and colon are distended by soft faeces—to be probably more common. Presumably peristalsis is ineffective in this condition. Beside overflow, distention, vomiting, general deterioration, and excessive gas shadows can occur. Stimulant laxatives aggravate the symptoms and should be avoided until the bowel is cleaned from below. Small volume enemas are less effective than soap and water. The bowel may take over a week to clean, even with enemas on alternate days.

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Neuroleptic sensitivity in dementia with cortical Lewy bodies

EDITOR,—Ian McKeith and colleagues' paper¹ adds to the published clinical data on dementia with cortical Lewy bodies.² The authors make no comment on the severity and frequency of parkinsonian symptoms in dementia with cortical Lewy bodies found by other groups,^{3,4} although four of their 20 patients presented with Parkinson's disease—a proportion similar to the 14-40% reported previously.^{3,4} In the later stages of the disease parkinsonian symptoms are reported in most cases (70-87%).^{3,4} Parkinsonian symptoms responsive to levodopa have also been reported in young patients with the disease.^{6,7} We recently confirmed the severity of such symptoms and their responses to levodopa.⁸

With such a high frequency of important parkinsonian symptoms it is perhaps not surprising that the patients reported on by McKeith and colleagues were sensitive to neuroleptic drugs. Most of the patients were elderly and were receiving fairly high doses of neuroleptics. We have not observed sensitivity to such drugs in our patients—either those in whom dementia with cortical Lewy bodies was diagnosed after death³ or living patients in whom the diagnosis was made according to