deficiencies have been identified in 41 of 115 cases in which the original diagnosis was revised; 20 had a defect of β oxidation (mainly medium chain acyl coenzyme A dehydrogenase deficiency), nine an organic acid disorder (for example, propionic acidaemia) and five a urea cycle defect (for example, ornithine transcarbamylase deficiency).[2 10] Initial samples should therefore include a urine specimen for organic acid analysis (by gas chromatography—mass spectrometry) and plasma for acyl-carnitine analysis, either of which could be diagnostic or virtually so. Ideally, specimens should be collected before correction of hypoglycaemia as this can result in early disappearance of diagnostic metabolites. If a patient dies, other specimens should be taken, particularly skin biopsy specimens for fibroblast culture and enzymatic assay. Details of appropriate samples and storage conditions have been published recently.[10] Biochemists and pathologists need to be as conversant with these recommendations as paediatricians.

Patients with Reye's syndrome should be managed in a paediatric intensive therapy unit. The aim is to re-establish normal homoeostasis—by correcting hypoglycaemia, dehydration, acidaemia, and raised intracranial pressure—and to control seizures and fever.[11] Measurement of capillary (and venous) blood glucose and other markers of inherited metabolic disorders are crucial but may be overlooked. Correction of hypoglycaemia must be followed by an uninterrupted infusion of 10-15% glucose. Measurement and control of intracranial pressure is thought to be important and has recently been reviewed.[12] Evidence suggests that cerebral perfusion pressure (the difference between systolic blood pressure and intracranial pressure) should be maintained above 40 mm Hg to ensure a satisfactory outcome.[13] Ambulance transfers from peripheral hospitals should occur only after direct medical liaison and meticulous implementation of these principles.

Assessing the effectiveness of management is difficult in a heterogeneous disorder such as Reye's syndrome. Among those attending normal schools two factors seem to influence subsequent psychometric and academic performance—age at the time of illness (infants being more adversely affected) and severity of coma.[14] Of 48 patients treated in Northern Ireland between 1979 and 1984, eight have died and another five sustained severe neurological disability. Poor outcome has been associated with early onset of seizures, profound hypoglycaemia, and coma.[15]

Reye's syndrome, which is a diagnosis of exclusion, is a marker of serious metabolic upset. It demands immediate, specialised investigation and management. The dangers of using aspirin in children with common viral illnesses must be kept before the public.

JOHN F T GLASGOW
Reader
RAYMOND MOORE
Senior research officer

Department of Child Health,
Institute of Clinical Science,
Belfast BT12 6BJ

1 Reye RDK, Morgan G, Baral J. Encephalopathy and fatty degeneration of the viscera. *Lancet* 1963;ii:749-52.
2 Newton L, Hall SM. Reye's syndrome in the British Isles: report for 1990-91 and the first decade of surveillance. *Communicable Disease Report* 1993;3:R11-6.
3 Glasgow JFT. Clinical features and prognosis of Reye's Syndrome. *Arch Dis Child* 1984;59:230-5
4 Treem WR, Witzleben CA, Picolli DA, Stanley CA, Hale DA, Coates PM, *et al.* Medium chain and long chain acyl CoA dehydrogenase deficiency: clinical, pathologic and ultrastructural differentiation from Reye's syndrome. *Hepatology* 1986;6:1270-8.
5 Corkey BE, Hale DE, Glennon MC, Kelley RI, Coates PM, Kilpatrick L, *et al.* Relationship between unusual acyl CoA profiles and the pathogenesis of Reye's syndrome. *J Clin Invest* 1988;88:782-8.
6 Van Coster RN, De Vivo DC, Blake D, Lombes A, Barrett R, DiMauro S. Adult Reye's syndrome: a review of new evidence for a generalised defect in intramitochondrial enzyme processing. *Neurology* 1991;41:1815-21
7 Hall SM, Bellman M. Reye's syndrome in the British Isles: first annual report on the joint British Paediatric Association and Communicable Diseases Surveillance Centre Scheme. *BMJ* 1984;288 549-50
8 Hall SM, Plaster PA, Glasgow JFT, Hancock P. Preadmission antipyretics in Reye's syndrome. *Arch Dis Child* 1988;63:857-66.
9 Hall SM. Reye's syndrome and aspirin: a review. *Br J Clin Pract* 1990;44:4-11.
10 Green A, Hall SM. Investigation of metabolic disorders resembling Reye's syndrome. *Arch Dis Child* 1992;67:1313-7.
11 Partin JC. General management of Reye's syndrome. In: Wood C, ed. *Reye's syndrome* London: Royal Society of Medicine, 1988:156-72
12 Sharples PM. Intracranial pressure monitoring in comatose children: concepts and controversies. *Curr Paediatr* 1991;1:46-8.
13 Jenkins JG, Glasgow JFT, Black GW, Fannin TF, Hicks EM, Keilty SR *et al.* Reye's syndrome: assessment of intracranial monitoring. *BMJ* 1987;294:337-8.
14 Duffy J, Glasgow JFT, Patterson CC, Clarke MJ, Turner IF. A sibling-controlled study of intelligence and academic performance following Reye's syndrome. *Dev Med Child Neurol* 1991;33:811-5.
15 Glasgow JFT, Jenkins JG, Hicks EM, Keilty SR, Crean PM, Black GW, *et al.* The prognosis for Reye's syndrome in Ireland: can it be improved? *Ir J Med Sci* 1986;155:111-6.

The need for chaperones

Better to err on the side of caution

A chaperone is "one, especially an older woman, who accompanies a girl for protection, restraint or appearance's sake."[1] While this definition has evident implications for the behaviour of both parties in an encounter, medical usage has traditionally focused on the protection of the doctor, typically male, against unfounded allegations of impropriety by the patient, typically female. Stacey has described the "myth of the sinning patient and the upright but sorely tempted doctor"[2] and has reviewed evidence that suggests that patients as well as doctors may require protection.[3]

On p 986 Speelman and colleagues report that female general practitioners use chaperones very rarely and two thirds of male general practitioners use them never or infrequently. About one in six male general practitioners, however, said that they always used a chaperone,[4] a figure comparable to that reported 10 years ago.[5]

Patients also vary in their views; three out of four women surveyed in one general practice said that they would like to be offered a chaperone for a vaginal examination, although only 6% would accept the offer if it was made by their own doctor and 17% by a different doctor.[6] In contrast, some doctors who never use a chaperone stated that the offer of a chaperone introduced either mistrust or an unwanted sexual element into the consultation.[5] According to a study by Bell some women would find the presence of a third party embarrassing, while others would find it reassuring to have a nurse present.[7]

When should a doctor offer or arrange to have a chaperone present? For those wishing to protect themselves against all unwarranted accusations of indecency, the provision of a chaperone for every vaginal examination will provide only limited protection. Pelvic and genital examinations are not the only, or even the major, source of problems. Medical defence organisations point out that darkening the room—for example, for retinoscopy or funduscopy—or examining the female torso, perhaps in the context of a chest infection, may

give rise to misunderstandings. They emphasise the importance of clear explanation as the examination proceeds and the potential consequences of failures of communication (Medical Defence Union, Medical Protection Society, personal communications). Furthermore, complaints of indecent assault have been made by patients of both sexes and are not limited to allegations against a doctor of the opposite sex.

The numbers of cases dealt with by the defence organisations are too small to draw conclusions about other risk factors, but evidence exists that young, medically inexperienced women consulting unfamiliar doctors are more likely to accept the offer of a chaperone,[5] and it may be prudent for trainees and locums to consider their use in these circumstances. Beyond this, the exercise of wisdom, discretion, and even intuition is likely to represent a more effective strategy than a belief that a chaperone is never appropriate.

When a chaperone is used, she is likely to be a practice nurse, although receptionists, dispensers, and practice managers may also take this role, an arrangement likely to surprise some patients. Unsatisfactory tactics, such as leaving the surgery door ajar or keeping the intercom open between surgery and reception, have also been described.[8] Doctors and, to a lesser extent, patients have stated that the presence of a third party can compromise the doctor-patient relationship and hamper communication; conversely, some patients may be more likely to discuss their fears and concerns with a nurse, although other members of the practice team might be less able to provide this support.

What should our patients expect? Principally that any consultation or examination is carried out in an atmosphere of care, confidentially, and trust with the general practitioner of their choice, where anxieties are sought and addressed and where explanation and understanding are assured. This involves sensitivity to patients' social and cultural backgrounds and to their abilities to understand the information we provide. Patients should also expect that an examination will be expertly performed so that it is as physically and mentally comfortable as possible, although this cannot be taken for granted.[9]

Considerable literature exists about patients' preferences for the gender of their general practitioner,[10 11] but our knowledge of their preferences regarding chaperones is slight, and more information would be useful. The offer of a chaperoned examination is likely to be acceptable to most patients, but accepted by a minority; equally, few patients are likely to object to the routine presence of practice nurses, particularly when they provide support for the patient and assistance to the doctor. The challenge is to create a climate of trust and honesty within which patients who may be confused or upset about events occurring in the surgery are able to articulate their concerns and obtain explanation and reassurance where appropriate.

ROGER JONES
Wolfson professor of general practice

Department of General Practice,
UMDS, St Thomas's Campus,
London SE11 6SP

1 *Chambers English Dictionary*. Cambridge: Chambers, 1989.
2 Stacey M. *Regulating British medicine: the General Medical Council*. Bristol: Wiley 1992:225-6.
3 Fisher N, Fahy T. Sexual relations between doctors and patient. *J R Soc Med* 1990;83:681-3.
4 Speelman A, Savage J, Verburgh M. Use of chaperones by general practitioners. *BMJ* 1993;307:986-7.
5 Jones R. The use of chaperones by general practitioners. *J R Coll Gen Pract* 1983;33:25-6.
6 Jones R. Patients' attitudes to chaperones. *J R Coll Gen Pract* 1985;35;192-3.
7 Bell JM. A study of the experiences, feelings and attitudes of a group of British women in a rural community to gynaecological examination [dissertation]. London: UMDS, University of London, 1990.
8 McKee I. Third-party politics. *Medical Monitor* 1993;6:15.
9 Cohen DL, Wakeford R, Kessel RWI, McCullough L. Teaching vaginal examination. *Lancet* 1988;ii:1375.
10 Alexander K, McCullough J. Women's preferences for gynaecological examiners: sex versus role. *Women and Health* 1981;6:123-4.
11 Preston-Whyte ME, Fraser R, Beckett JL. Effect of principal's gender on consultation patterns. *J R Coll Gen Pract* 1983;33:654-8.

Melatonin

Hormone of darkness

A recent review of melatonin was entitled "Time in a Bottle," and there could be no more apt description of this old hormone with its newly discovered function.[1] Just imagine it; we can now use melatonin to help coordinate, regulate, and, if necessary, readjust the body's internal biological clock.

Annual biological rhythms are probably not very important in human affairs, although long winter nights produce seasonal affective disorder in some people. Bright lighting, which inhibits melatonin secretion, may be an effective treatment. But what of those 24 hour circadian rhythms that have much greater effects on our lives, such as the rhythms of sleeping and waking, body temperature (highest in the afternoon), cortisol (highest at dawn), prolactin (highest during the night), melatonin (absent during the day), and intellectual performance (best at midday)?

Normally they are in synchrony with one another; but perturb the system by working night shifts and attempting to sleep by day, or by crossing time zones and succumbing to "jet lag," or by going blind, and you soon become aware of what it is like to live in a state of desynchrony. A growing body of clinical evidence exists to show that timed melatonin administration is of considerable benefit in allowing the re-entrainment of these disturbed rhythms.[2]

Recent research has begun to show how melatonin produces its entraining effect. The body's 24 hour "clock" seems to reside in the suprachiasmatic nucleus of the hypothalamus, one of the few sites in the brain to have high affinity melatonin receptors. Keep a rat in constant dim light and its 24 hour rhythms of eating, sleeping, feeding, and drinking become disrupted, but give the rats a daily injection of melatonin at the same time each day and all these rhythms will become reentrained.[2] The metabolic activity of the suprachiasmatic nucleus is altered by melatonin administration,[1] suggesting that it is the hormonal transducer of darkness. Melatonin transmits information to the inner depths of a brain that lacks the ability to tell the difference between night and day.

In humans melatonin is produced at a rate of about 30 μg/24 hours, almost all of it being secreted by the pineal gland during the hours of darkness.[3] When physiological amounts of melatonin are given to subjects, there is a fall in basal body temperature comparable to that normally seen during sleep.[4] This fall may affect other bodily rhythms —for example, intellectual performance and body temperature tend to go hand in hand.

In humans, large doses of melatonin, ranging from 5 mg to 5 g have a marked short term hypnotic effect. One group in the Netherlands have started phase 3 clinical trials of a contraceptive pill containing 75 mg melatonin and 500 μg norethisterone. The group hopes that this will put women