hypocalcemia of malignancy, but unfortunately this is not available. Oral phosphate is effective in most patients but is tolerated by only a few; oral glucocorticoids are tolerated but are effective in only about a third of patients. Prostaglandin synthetase inhibitors are ineffective, as is cellulose phosphate. The only oral bisphosphonate available for prescription (disodium etidronate) does not seem to be effective; other oral bisphosphonates that are effective but not currently available are likely to be the best treatment in the future.

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Difficulties raised by insurance medical reports

Make sure patients have given consent and avoid conjecture

Doctors have been helping insurance companies and patients by completing “personal medical attendants’ reports” for insurance policies since the last century. This process has worked well—so long as safeguards recommended in the BMA’s Handbook of Medical Ethics’ are followed—but now AIDS is presenting new problems. Insurance companies are anxious to pick up on anybody who might be infected with HIV, and patients are disturbed by their doctors being asked very personal questions about them.

In the past doctors have acted in the best interest of patients even when reporting adverse features of their medical histories—because if an incorrect statement or relevant fact is overlooked then insurers may reject a claim and the patient may forfeit paid premiums. Now, because of AIDS, insurance companies have included questions in the personal medical attendants’ reports about possible contact with sexually transmitted diseases, which are upsetting both doctors and patients. And the Medical Reports Act, which came into force at the beginning of the year, will mean that patients have access to what doctors say about them in their medical reports.

A study from Hampshire reported on p 1495 showed that
half of more than 200 patients on whom doctors were asked to complete personal medical attendants' reports could not recall having given their permission. A third objected to questions on sexual habits, and over half expected their doctors to withhold sensitive information. This report should help general practitioners when preparing reports for insurance companies, and it suggests that they should make sure that their patients know that they are completing them: they might also discuss with the patients whether they are happy for certain information to be released.

Insurance companies should consider carefully the questions they ask so that doctors' relationships with their patients are not harmed. For instance, a question such as "Is there anything about the patient's lifestyle that makes it likely that the patient will get a sexually transmitted disease?" puts an improper strain on the professional relationship. Such questions should be directed at the patient; doctors should be expected to report medical fact not conjecture.

The relation between insurance companies and the proposer's general practitioner is important to nurture as together they may help the proposer to achieve a just contract. Great care and goodwill are needed in negotiating between the two groups to ensure a happy relationship and to reassure patients that their doctors will disclose only medical facts for which they have given informed consent.

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Causes of cataract

Age, sugars, and probably ultraviolet B radiation

Around the world about 17 million people are blind because of cataract. Although cataract is treatable by operation, increasingly the resources of poor countries are outstripped by the growing demand. In rich countries an increasing proportion of resources is consumed by treating cataracts. In England and Wales operations for cataracts increased by almost two thirds in the decade up to 1985, and there was an increase of 177% in the decade before 1976 in the United States, where one million cataract operations were carried out in 1987. Clearly, prevention of cataract should be emphasised, but unfortunately the cause of the commonest form of cataract—that related to aging—remains an enigma.

There are many causes of cataract, which is the common response to a physical, mechanical, or chemical insult. The transparency of the lens of the eye depends on a unique arrangement of tightly packed fibres, which in turn rely on a certain protein structure; and the lens is isolated in its special environment by a capsule and epithelium. Hence damage to the capsule, epithelium, or the constituent fibres of the lens may all lead to the formation of a cataract, and the injury may be cumulative over many years.

The most studied cataracts are those that may be caused by high concentrations of various sugars. The best understood form of cataract occurs in galactosaemia, which results from a lack of the enzyme galactose-1-phosphate uridylytransferase or galaktokinase. The galactose that accumulates is converted to galactitol in the presence of aldose reductase and leads to increased osmotic pressure and hydration as galactitol does not diffuse out of the capsule. An aldose reductase inhibitor would prevent the conversion of galactose to galactitol and has been shown to prevent and reverse early cataract when instilled topically into the eyes of galactosaemic rats.

In diabetics under 60 the prevalence of cataract is three or four times that in the normal population, and the cataracts may develop similarly to those in patients with galactosaemia—yet whereas the evidence in animal studies is suggestive the case in humans is less convincing. An alternative hypothesis is that non-enzymatic glycosylation occurs; this explains both the increased pigmentation and protein aggregation in the lens and accords with the finding of a blood glucose concentration that is higher in patients with cataracts than in controls.

Much more important than the effect of sugars in causing cataract is the potential effect of electromagnetic radiation. The damaging effects on the lens of ionising, microwave, and infrared radiation are well known, but hitherto the effects of ultraviolet radiation from the sun have been uncertain. Most of the ultraviolet radiation is filtered out by the cornea, and only wavelengths of 295 nm or greater pass through. But the lens absorbs nearly all the ultraviolet from 295 nm to 400 nm, and the high prevalence of cataract in countries with hot climates has meant that the harmful effect of ultraviolet radiation has long been suspected.

Some epidemiological data already support the hypothesis that absorbing ultraviolet radiation from sunlight is an important risk factor in forming cataracts. The hypothesis fits the observations of increased yellowing of the lens nucleus with aging and that exposure to ultraviolet radiation leads to the formation of chromophores from proteins containing tryptophan, thus increasing the potential of the nucleus to absorb more radiation. The precise mechanism is still disputed but may depend on the oxidation of free radical scavengers setting in train reactions that lead to protein aggregation.

Although this hypothesis fits the changes that occur in the nucleus, it does not match the observation that age related cataracts commonly affect the outer cortex. Furthermore, epidemiological data from India suggested that the prevalence of cataract was higher in the cloudier plains of Punjab than in the sunnier hills of the Himalayas. A later study repeated in the same region found a correlation between cataract and the concomitants of poverty, notably poor nutrition and hygiene. In such cases a powerful risk factor may be dehydration from serious diarrhoea, which may increase blood urea concentrations and thus make cyanate more available for carbamylation of lens protein. Diarrhoea was an important risk factor in a study in Madhya Pradesh and (somewhat surprisingly) in Oxford.

More recently a tightly controlled study on watermen in the Chesapeake Bay showed correlation between cataract and prolonged exposure to sunlight; exposure to ultraviolet B radiation (295-320 nm) was important whereas that to ultraviolet A radiation (320-400 nm) was fairly unimportant, and the positive relation was with cortical rather than nuclear cataract.

Although more evidence is accumulating to support the