

The risk of certain foetal abnormalities increases with advancing maternal age. Thus the incidence of anencephaly, hydrocephaly, and spina bifida is almost doubled after the age of 40, while the incidence of mongolism in women over 45 years of age is 26.3 per 1,000 births, compared with an incidence of 1.5 per 1,000 births in women of all ages.¹ In spite of these increased chances of bearing an abnormal child, I do not consider that there is any justification for dissuading the patient from trying to conceive again.

REFERENCE

- ¹ Morison, J. E., *Foetal and Neonatal Pathology*, 2nd edition, 1963. Butterworths, London.

Storage Temperature for Serum

Q.—What is the accepted maximum number of days that a patient's serum may be stored at 4° C. and still be used for cross-matching blood, assuming that the patient has not been transfused during the past few months?

A.—Sera should be stored in the frozen state, even if this is only in the freezing compartment of an ordinary refrigerator, and not, if it can be avoided, at 4° C. Storage at 4° C. raises the problem of maintenance of sterility and of preservation of complement.

Infected sera are unsuitable for cross-matching blood. The addition of sodium azide in a final concentration of 0.1% has been recommended as a bacteriostatic agent. The gamma-globulins—that is, the antibodies—are stable over very long periods. Unfortunately some, like those against the Kidd and Lewis groups, may be detected only because they also bind complement. The relatively rapid deterioration of complement in sera stored at 4° C. raises the possibility that such antibodies may be missed, and for this reason it is undesirable to store such sera for more than a few days at 4° C. before cross-matching.

Different Live Vaccines Given Simultaneously

Q.—What is the basis of the recommendation that vaccination against yellow fever should not be done within 21 days of previous primary vaccination against smallpox? It is held in the United States that there is no known contraindication to doing both vaccinations at the same time.¹

A.—The recommendation that yellow fever should not be done within 21 days of previous vaccination against smallpox and that smallpox vaccination should not be done within four days of yellow fever vaccination was made by a panel of experts brought together in 1948 by the Ministry of Health. This recommendation still governs current practice in Britain.

Before 1948 there was some measure of agreement in this country that the two vaccines should not be given simultaneously, but the recommended interval between vaccinations varied between practitioners. It was considered that if two live vaccines were given simultaneously, one could activate the

other to produce severe reactions (e.g., encephalitis), and possibly, because of virus interference phenomenon, inhibit an optimum antibody response.

Yellow fever and smallpox vaccines had been given simultaneously without any apparent ill effects even before 1948.² They were reported to be relatively ineffective when given simultaneously at the same site,³ but were safe and effective against both diseases when given simultaneously at different sites.⁴ More recent studies have shown that the characteristic clinical reactions elicited by yellow fever, smallpox, and measles vaccines were not altered or accentuated when a mixture of these three live virus vaccines were given to infants by jet inoculation, nor was there evidence of significant immunological interference.⁵

REFERENCES

- ¹ Parish, H. J., and Cannon, D. A., *Antisera, Toxoids, Vaccines, and Tuberculin in Prophylaxis and Treatment*, 6th ed., 1962. Livingstone, Edinburgh.
² Peltier, M., *Amer. J. publ. Hlth*, 1947, **37**, 1026.
³ Meers, P. D., *Trop. Dis. Bull.*, 1959, **56**, 820.
⁴ *Ibid.*, 1961, **58**, 188.
⁵ Meyer, H. M., Hostettler, D. D., Bernheim, B. C., Rogers, N. G., Lambin, P., Chassary, D., Labusquière, R., and Smadel, J. E., *Bull. Wild Hlth Org.*, 1964, **30**, 783.

Routine Chest X-ray in Pregnancy

Q.—Is it safe to carry out routine chest x-ray examinations in pregnancy?

A.—In the first preliminary *Adrian Report*¹ it was recommended that routine chest x-ray examinations of pregnant women should continue to be carried out because the incidence of tuberculosis in them was still high.

The situation has altered since with the decline in the incidence of tuberculosis. Although there is no new *Adrian* recommendation on the subject it is now generally considered undesirable to do routine chest x-ray examinations in pregnancy. If, however, there is a direct indication, such as contact with a tuberculous person, an x-ray examination should, of course, be carried out, care being taken to protect the foetus.

REFERENCE

- ¹ *Radiological Hazards to Patients*. Interim Report of the Committee, 1959. H.M.S.O., London.

Sterilizing Instruments in Oven

Q.—Could instruments carried in a metal box be sterilized by heating the box and contents in an oven? If so, at what temperature and for how long would the heat have to be applied?

A.—Instruments carried in a metal box can certainly be sterilized by heating in an oven. Exposure to a temperature of 160° C. for one hour is required. There are several provisos. In ovens not provided with fans the temperature at the centre is usually distinctly lower than at the sides and top, and overall control of temperature fluctuations may be poor. The heating-up time of different packs in different ovens may vary greatly, and allowance must be made for this in calculating the total time of exposure necessary to ensure that the contents of the box are exposed to the correct temperature

for the necessary time. Adequate exposure can be ensured by including in the centre of the pack a green spot Browne's tube (Albert Browne Ltd., Leicester, England).

Unless the box is airtight air will be expelled during heating and fresh, possibly contaminated air will enter the box as it cools. A simple metal tin, suitable for a few instruments, which incorporates an air filter has been described.¹ It is not stated what instruments are to be sterilized. Not everything will withstand this kind of treatment, but metal instruments, including sharp ones (which should be protected from mechanical damage), may be safely treated in this way.

REFERENCE

- ¹ O'Grady, F., and Thompson, R. E. M., *Lancet*, 1962, **1**, 516.

Notes and Comments

External Cardiac Massage.—Dr. W. N. ROLLASON (University Medical Buildings, Foresterhill, Aberdeen) writes: In the answer to this question ("Any Questions?" 5 February, p. 343) your expert recommends that the sternum moves inwards $\frac{1}{2}$ to $\frac{3}{4}$ in. (1.3 to 1.9 cm.) about 80 times per minute, and that very little force is required. I doubt if this is likely to provide an effective circulation in the adult, for it is my impression that considerable force is required to depress the sternum the necessary $1\frac{1}{2}$ to 2 in. (3.8 to 5.1 cm.) adequately to compress the heart. The rate should not exceed 60 per minute, and the legs should be raised to allow adequate cardiac filling before compression. After every eight compressions there should be a pause to allow ventilation of the lungs to take place. It is, I feel, important that there should be general agreement on the teaching of the treatment of this critical emergency.

OUR EXPERT replies: Dr. Rollason does well to draw attention to the advisability of raising the patient's legs during the procedure, and to the pause which should take place every eight compressions or so.

My experience is that the learner tends to be too vigorous in his compression, and I would like to repeat that surprisingly little force is required with a "normal" chest wall. There should be no question of nearly fracturing ribs or costal cartilages. As to the rate of compression, I doubt whether it matters greatly between the limits of 60 to 80 per minute. The medical man experienced in the technique finds that some patients seem to respond better if the massage rate is increased.

Prednisone and Skeletal Growth.—Dr. G. L. FOSS (Bristol 8) writes: In answer to this question ("Any Questions?" 29 January, p. 284) your expert makes the statement that "anabolic agents are androgens, however weak." That is correct. But he goes on to say that they [anabolic agents] "tend to accelerate skeletal maturation more than linear growth." I have previously recorded (30 October 1965, p. 1044) my entire disagreement with this dogmatic statement and gave my reasons. I was supported by Drs. R. Greene and L. S. Carstairs (20 November 1965, p. 1230).

Correction

In the paper entitled "Allopurinol and Acute Uric Acid Nephropathy," by Dr. R. W. E. Watts and colleagues (22 January, p. 205), the sentence immediately before the heading "Discussion" on page 207 should have read: "It was also established that sufficient xanthine oxidase was being used in the analyses to overcome the possible inhibitory effects of allopurinol and its metabolites in the urine."