


THE AMBU-RESUSCITATOR

Sir,—Drs. W. D. A. Smith and J. F. Nunn show on page 507 of the August 1963 issue an AMBU-Resuscitator, where part of the outer skin "was perished", and they draw attention to the necessity of a "rigid system of inspection when these bags are stored ... ".

Since ten thousand of these resuscitators are in use the world over, the following information might be of interest:

It is generally known that vulcanized rubber needs periodical inspection and care, as is stated in the British Standard 3574:1963. When the AMBU-Resuscitator was introduced in 1957 only natural rubber was available. Natural rubber may age exceptionally quickly, owing to ozone, produced by ultra-violet light (daylight), or other sources (electrical equipment).

Today we can see that even the oldest samples of the AMBU-Resuscitators, which have been kept in dark storage, are like new ones, but that in extremely rare cases, where they have been exposed to ozone, the outer skin has become brittle. The sample photographed by the authors is such a case. When the outside skin has become brittle, parts of it may break off one day and be lost. It looks as if this resuscitator after intermittent use has lost the missing parts and that someone has replaced this defective resuscitator in the original packing.

As soon as the ozone-resistant Neoprene rubber became available some years ago, immediate steps were taken to make the outer cover for the AMBU-Resuscitator of this material. Neoprene is an artificial rubber which is not affected by light or ozone. In co-operation with Du Pont de Nemours International S.A., Geneva, such a Neoprene cover was developed, tested at the Technological Institute in Copenhagen, and the Rubber Institute in Delft, Holland, and then introduced.

Since January 1963, only Neoprene-covered AMBU-Resuscitators have been delivered, and the AMBU-Resuscitators delivered since the summer of 1961 are of a construction so that a damaged cover can be replaced. The photograph (below) shows the new AMBU-Resuscitator with the Neoprene skin.

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PARENTERAL FLUIDS IN PAEDIATRIC SURGERY

Sir,—Professor Carré in his article on this subject (*Brit. J. Anaesth.*, 35, 488) reports a 2-kg baby (Case 4, p. 496) whose electrolyte imbalance was corrected by the administration of 200 m.equiv of sodium in 96 hours. Without in any way wishing to disparage the excellence of the article, and in particular of the chart he describes, I feel that this statement cannot go unchallenged.

A healthy baby weighing 2 kg would have a total body content of exchangeable sodium of approximately 100 m.equiv. The very low sodium concentration in the serum in the case reported was of necessity due in part to the inevitable loss of osmotically active potassium, so that the overall sodium deficit when treatment began could not possibly have been much more than 50 m.equiv. To have given 200 m.equiv of sodium and claim that imbalance had been corrected would only have been justifiable if accurate balance studies and the estimation of total exchangeable sodium before and after treatment had supported it.

The unfortunate term "imbalance" has come to mean a change of serum concentrations of electrolytes from their normal limits, with the corollary that if such concentrations are within these limits the patient is "in balance". This is no more true of sodium than it is of potassium and it is particularly important for anaesthetists to be aware that hyponatraemia is seldom due to sodium depletion alone.

Professor Carré has shown that astonishing amounts of sodium can be given to premature babies; by publishing accurate balance data he could show whether such amounts were necessary or that such babies have a hitherto unrecognized resilience to overloads of water and sodium.

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