The synovial membrane in early cases showed little or no pathological change. In chronic cases it was thickened, even redundant, and the surface shaggy or fringed due to excessive papillation. The lining cells in some cases were swollen or formed branching finger-like processes projecting into the subjacent fibrous tissue. A round-celled infiltration of the sub-endothelial tissues was common, associated with an increase both in vascularity and in the amount of fibrous tissue. The picture, therefore, was that of a chronic, non-specific, inflammatory process.

Pathological reports which conflict with the clinical findings must be treated with reserve. The following was a case in point. It was reported that a piece of synovial membrane taken while removing a torn cartilage showed signs of tuberculous infection; this was confirmed by several experienced pathologists. The patient, however, made an unusually rapid recovery and he was treated as a non-tuberculous case on account of the negative clinical findings. This decision was justified by events as the soldier reported every month for six months after discharge from hospital and developed no manifestation of any local or general infection.

The discoid cartilages were only abnormal macroscopically. The cystic cartilages were abnormal both macroscopically and microscopically. The cysts were usually confined to one area of the outer border of the cartilage, they were multilocular, they contained a clear mucoid substance and the walls appeared to be more transparent than ordinary fibrocartilage. Under the microscope various stages of cyst formation could be studied in the same specimen. The fibrocartilage began to lose its normal architecture of parallel fibres and cells, the nuclei appeared degenerate and stained faintly, the fibres seemed swollen and structureless and ultimately they split or separated to form a spongy and relatively acellular meshwork in which clefts appeared. Some of these crevices became enlarged and rounded to form cysts, often lined by a single layer of modified flattened cells. The surrounding fibrocartilage showed islands of degeneration, necrosis, or myxomatous change, or appeared more fibrous than normal. The general impression created was of degenerative rather than of inflammatory changes.

One wishes to thank Brigadier P. Wiles, Colonel H. D. F. Brand and Colonel L. A. J. Graham for permission to forward this article. Amongst the pathologists who have examined the specimens one is especially indebted to Captain A. D. Morgan, Major D. T. Stewart, and Captain J. E. Craik.

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AN IMPROVISED STILL.

BY MAJOR BENJAMIN PORTNOY,
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An improvised still is described below which has been used successfully in the field where an adequate water supply for cooling is often limited. The still was built around a salvaged internal heater from an ambulance. In its original form the heater consisted of two copper tubes (B) joined at each end and passing through about one hundred corrugated metal plates, the whole acting as a very efficient radiator. The method of modification was as follows:—

Copper tubes A and C were soldered into the junction of the pipes B at each end. It was found that when steam was passed, via A, along the copper pipes B, the cooling power of the corrugated metal plates was sufficient to give a good supply of distilled water at the outlet C. The apparatus became too hot after about half an hour and some additional form of cooling had to be devised. Manual cooling with the aid of a large sponge and a bucket of water was successful but, in order to make the apparatus more automatic, an arrangement was set up by which cold water dripped on to the steam pipes B. A very elongated O-shaped copper tube (D) with holes (E) bored along its under surface was suspended by three brackets above the apparatus so that its two long limbs were exactly above the two steam pipes B.
When cold water is passed into the tube (D) it drips on to the whole length of the two pipes (B) and gives efficient cooling. The whole still was bolted down into a wooden, tin-lined, shallow box (K) with an outlet (L). This outlet is the overflow from K and, via this, the waste water is collected in a bucket.

In using the still a bucketful of cold water at a higher level than the apparatus is siphoned slowly into D regulating the rate of flow by means of a screw-clip on a piece of rubber tubing. When the bucket is almost empty it is refilled, using the waste water from L—by this means only one bucketful of water is needed to work the still for a long period. With the exhaust valve of the laboratory autoclave as the source of steam a yield of about 4 pints of distilled water is obtained hourly—this has been found to be of high quality.

The approximate dimensions of the apparatus are as follows:

Internal diameter of tubes A, D and C is 7 mm. and that of B is 20 mm. The water dropping holes (E) bored in D are at 1 cm. intervals in the half of D nearest to C. The latter arrangement is necessary because the steam inlet side gets much hotter than the water producing side and therefore needs more than its share of cooling. The corrugated iron plates are 10 cm. square and it is probable that if they were many times this size the apparatus could be worked without any water cooling.

My thanks are due to Colonel J. S. K. Boyd, D.D.P., M.E.F., for his interest in the apparatus, and to the D.M.S., M.E.F., for permission to forward this article. This article was actually submitted in June, 1942, but was lost by enemy action.

A CASE OF ADDISON'S DISEASE OF TUBERCULOUS ORIGIN.

BY LIEUTENANT P. FRANKEL,

Royal Army Medical Corps.

The patient, aged 29, a serjeant, Royal Artillery, was admitted to E.M.S. Hospital, Preston Hall, on July 21, 1943. Until 1938, when he enlisted, he had been a factory worker. His