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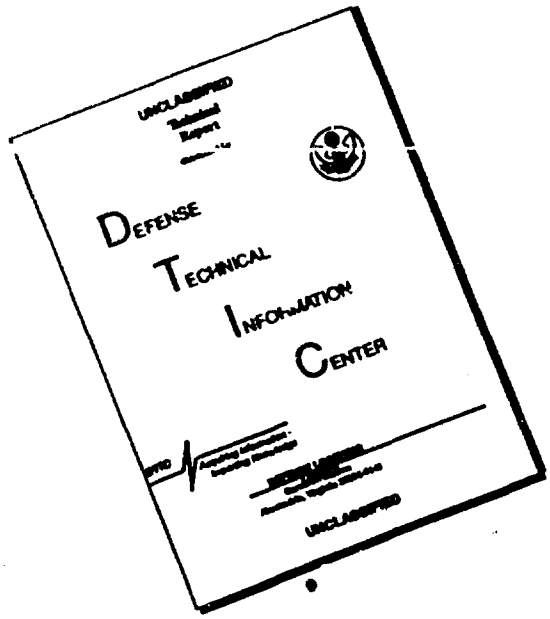

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MILITARY MEDICAL JOURNAL, (8), 1956; 80-83

Col. A. S. Christova and N. N. Stoyachev

Portable Sanitary-Epidemiological Kit

In the process of epidemiological and laboratory diagnostic work with units of the Bulgarian Peoples Army continual need was experienced for less travel to field areas to gather and/or sow material in infectious investigations. Therefore, a sanitary-epidemiological kit was constructed, consisting of two separate units, but each adaptable to use with the other: a portable laboratory kit and a portable combination lab apparatus. The two units can be useful in the work of epidemiologists during sanitary-epidemiological reconnaissance and sanitary epidemiological surveys.

PORTABLE Laboratory Kit: Designated for the collection and bacteriological analysis of various material, such as water, soil, blood secretion, feces, etc. Also, with the kit it is possible to conduct several elementary bacteriological and chemical analyses on location: determination of coli-titer, ammonia (gas), nitrite, nitrate, and also for the sowing of material on Petri dishes and others. It can be used for survey of food poisonings and also for sanitary hygienci and bacteriological control of water in villages and for bacteriological control of kitchens and messes.

The laboratory kit is packed in a suitcase type bag. It measures 40 cm long, 30 cm high and 23 cm wide. It weighs about 10 kg. The kit is box type, hinged so that it opens into two halves. In the left wing there is a folding test tube rack, 8 compartments for bandage or flasks, plus working utensiles. Above this there is a drawer, containing 10 flasks of nutritive media, plus 2-30 test tubes for collection of samples

and isolation purposes. Above this there is another drawer containing thermometers, pitots and other fine equipment.

In the right wing of this kit there are two metal containers, each with 10 Petri dishes covered with various nutritive media. Along with this there is an alcohol lamp, used for heating, etc. Above this there is a drawer for syringes, needles, surgery instruments, swabs, etc. Also, in this compartment there is a metal work slab, easily desinfected, which can be used to disect small animals, etc.

This is the basic component of the kit, but the contents can be varied to suit needs.

This kit can be operated by one person, either bacteriologists, epidemiologists or lab technicians. The entire kit is placed in a canvas bag which resembles a knapsack and can be carried on the shoulders.

The combination lab apparatus, which sterilizes, dry or wet, heats, usable on dishes or mediums, is constructed to be used with the above kit.

The lab apparatus is well constructed, has folding legs, shield (plexiglass and aluminum) for isolation of work from worker, and a folding stool.

PORTABLE Combination Lab Apparatus: This unit is the second part of the sanitary-epidemiological kit. It can be used as an autoclave, dry sterilizer, water bath or thermostat. Although the size of the unit is small, it can be used to simultaneously cultivate 10 Petri dishes and 10 tubes or flasks (20 ml each), or 30 test tubes or flasks. The dry sterilization will handle 7 flasks (100 ml each) and 45-60 tubes, or forty flasks of 20 ml each, etc.

The apparatus is made cylindrically of brass(0.4 mm) with outside measurements of : diameter-22cm, height-46 cm; Approximate weight- 8 kg.

It has two sections (stories) constructed one over the other; in the upper section, on the cover, there is a condenser, spring balancer for regulation of the steam, manometer to 3 atmosphere, opening for thermometer and a steam valve for use when the unit is used without pressure.

When using this unit as a thermostat, a second cylinder is inserted into the unit, water is put between the two walls and a constant temperature of 37-43 can be maintained.

In the lower section of the unit is located the heating compartment, which operates either on electricity or kerosene. During electrical operation, with 220 volts, it is equal to 1000 watts and serves all the functions of the apparatus except the thermostat. The temperatures can be varied by plugs which feed 1000, 500 or 300 watts. The kerosene unit is one unit, but with two burners; one large one for high temperatures, and one small one for the thermostat. The thermostat burner can work 24 hours and not excessively increase the temperature by 1 degree. Immediately under the cover of the unit there are holes for the circulation of the air while the kerosene unit is used.

This unit can also be packed in a bag and carried. Together with the first unit, this is one of the only methods of conducting field bacteriological work.