

NEW APPARATUS

A LONG LASTING TISSUE DISINTEGRATOR

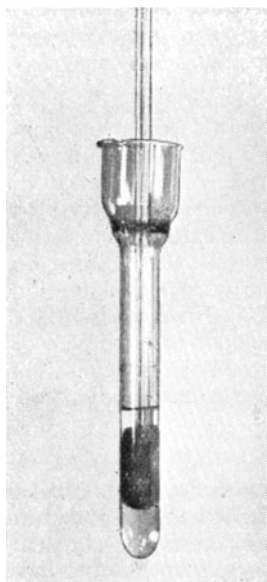
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One of the main disadvantages of the ordinary glass to glass disintegrator is the rate at which the surfaces wear, resulting in rapidly increasing clearance and loss of efficiency.

This has been to a large extent overcome in this laboratory by the use of an internal rotor made of polythene adhering to a glass rod. Construction is simple: a sufficient quantity of polythene tubing is cut into pieces, softened with a flame and moulded with a glass rod which is slightly splayed to ensure a good grip. By warming and manipulation, including pressing while soft into the tube it is destined to fit, and finishing by rotating against a file or scalpel, a satisfactory close fit can be obtained. Since polythene shrinks somewhat on cooling it is necessary to allow for this in the last stages of shaping.



Tissue disintegrator with polyethylene rotor. Graduated at 10 ml.

One such apparatus (with a fractional h.p. motor) has been used twice weekly for several months in Sayers assays for adrenocorticotrophic hormone, grinding 30 to 40 glands at a time with no loss of efficiency. Eventually the tube seems to wear a little, in which case a good fit is easily restored by warming the polythene and remoulding it slightly. It has been observed that a slight shrinkage of the rotor occurs if it is allowed to dry for long between periods of use: it is found advantageous to place it with the fluid used during grinding (in the example given, metaphosphoric acid solution) for a short time before use.

As well as adrenal glands, liver, spleen, kidney, heart and leg muscle from the rat are efficiently dealt with.

Brendler¹ has described the use of a plastic rotor using Lucite. This material, however, requires turning to the correct size. The use of polyethylene avoids this, and is convenient in laboratories not having access to a machine shop.

I am indebted to Mr. G. Napier for much care in constructing these disintegrators.

REFERENCE

1. Brendler, *Science*, 1951, **114**, 61.