



Royal
Pharmaceutical
Society
of Great Britain

MUSEUM OF THE ROYAL PHARMACEUTICAL SOCIETY OF GREAT BRITAIN
1 Lambeth High Street, London SE1 7JN

INFORMATION SHEET: 7

PILLS AND PILL-MAKING

“A PILL FOR EVERY ILL”, “ARE YOU ON THE PILL?”- PHRASES THAT ARE USED TODAY, BUT DO WE REALLY MEAN 'PILL'? IT IS PROBABLE THAT WE ARE THINKING OF TABLETS. TABLETS ARE NORMALLY ROUND, BUT FLATTENED, PILLS ARE SPHERICAL. BEFORE MECHANISED TABLET PRODUCTION, PILLS WERE A MEDIUM FOR THE APOTHECARY AND PHARMACIST TO SHOW THEIR SKILLS IN PRODUCING AN ATTRACTIVE AND PALATABLE MEDICINE.

HISTORY

Early medicine was a process of soaking herbs in water or alcohol to extract the active ingredients which were then drunk as a tea. As methods progressed it was found that the dried herbs could be used and that, by powdering the dried herb, a small amount of the powder could be taken thus forgoing the need to make a tea. Various herbs could be mixed together and swallowed with a little water. They could also be mixed with minerals and chemicals that were found to have medicinal properties. Methods were found to extract the medicinally active parts of plants and present them as powders.

This was all very well but how did they taste and how could we get an accurate dose? The answer to both questions came in the spherical shape of the pill.

It became possible to compound accurately weighed medicaments into single doses of medicine.



PILL-MAKING

A typical formula or prescription for pills would give the weight of each ingredient required to make one pill and state the number of pills required. Multiplying these two figures together gave the quantities to be weighed. The ingredients were then thoroughly mixed using a *pill mortar and pestle*.

It was now necessary to add an *excipient*, an inert substance to bind all the ingredients together to form a stiff, workable mass. The substance of choice, for most purposes, was syrup of liquid glucose - a very thick and viscous syrup. This had to be added a drop at a time whilst the ingredients were vigorously worked in the mortar. Just enough was added to form a non-crumbling, stiff, pliable mass.

The mass now had to be divided accurately into equal parts equivalent to the number of pills ordered. In earlier days this procedure was carried out on a *pill tile*. The mass would be rolled into

a ball, then gradually rolled into a long, even pipe. By measuring the pipe and dividing by the number of pills, the length of each dose could be calculated and the pipe cut into portions. Later tiles had graduations so that the pipe could be rolled to a specific length equal to the required number of graduations.

A later (and welcome) development was the *pill machine*, an apparatus that allowed for the pipe to be measured and cut into accurate pieces. Grooves in a brass plate corresponded to the number of pills and the pill mass could be rolled to the number required. A handle with complementary grooves was guided to cut the pipe. Careful manipulation could produce quite rounded portions. The added advantages of the pill machine were an area to roll the pipe and round the pills and a box to collect the cut pieces (which could also be used to roll the pill mass).

A *pill rounder* was used to make the cut portions spherical. The portions were roughly rounded between finger and thumb and placed under the rounder which was manipulated with a circular or figure-of-eight movement. Periodic checks were made and well rounded pills removed. When all the pills were rounded they were set aside and allowed to dry.



From a Museum postcard showing various apparatus used in pill making.
At the back is a, *Pill Mortar and Pestle*. Centre from left to right, a *Pill Machine*, *Pill Silverer*,
Pill Tile and *Pill Rounder*. Front a *Pill Box* containing pills and a *Spatula*.

When dry the pills could be given to the patient. However, it was customary to enhance the appearance of the pills and this could be done in various ways. A pearlised finish was achieved by again using the pill rounder but rolling the pills in a little talcum powder. A coat of varnish could be applied by rolling the pills in a few drops of varnish in a round-bottomed container. The ultimate finish was a coating of gold or silver which was achieved with the aid of a *pill silverer*. Gold or silver leaf was used to line the inside of the pill silverer, the pills were moistened by rolling them in a few drops of a liquid vegetable gum then placed inside. The top was put on and the apparatus was rotated for a few minutes. Fees for coating were added accordingly.

The resulting pills were packed, usually in round boxes, and labeled with the doctor's instructions.

© Peter G Homan FRPharmS MCPP, 2002

The illustration overleaf is from a Museum postcard of an Apothecary's Tile: English Delftware: 1670. Inscribed 'Thomas Fautrar' with the arms and motto of the Apothecaries' Company.

This information sheet is also available in a large font size.
Please contact us on 020 7572 2210 or museum@rpsgb.org.