

## MOBILE PHONES

A **mobile phone** (or **cellphone**<sup>[a]</sup>) is a portable **telephone** that can make and receive **calls** over a **radio frequency** link while the user is moving within a telephone service area, as opposed to a fixed-location phone (**landline phone**). The radio frequency link establishes a connection to the switching systems of a **mobile phone operator**, which provides access to the **public switched telephone network** (PSTN). Modern mobile telephone services use a **cellular network** architecture and therefore mobile telephones are called cellphones (or "cell phones") in North America. In addition to **telephony**, **digital mobile phones** support a variety of other **services**, such as **text messaging**, **multimedia messaging**, **email**, **Internet access** (via **LTE**, **5G NR** or **Wi-Fi**), short-range wireless communications (**infrared**, **Bluetooth**), satellite access (**navigation**, **messaging connectivity**), business applications, **video games** and **digital photography**. Mobile phones offering only basic capabilities are known as **feature phones**; mobile phones which offer greatly advanced computing capabilities are referred to as **smartphones**.<sup>[1]</sup>

The first handheld mobile phone was demonstrated by **Martin Cooper** of **Motorola** in **New York City** on 3 April 1973, using a handset weighing c. 2 kilograms (4.4 lbs).<sup>[2]</sup> In 1979, **Nippon Telegraph and Telephone** (NTT) launched the world's first cellular network in Japan.<sup>[3]</sup> In 1983, the **DynaTAC 8000x** was the first commercially available handheld mobile phone. From 1983 to 2014, worldwide mobile phone subscriptions grew to over seven billion; enough to provide one for every person on Earth.<sup>[4]</sup> In the first quarter of 2016, the top **smartphone** developers worldwide were **Samsung**, **Apple** and **Huawei**; smartphone sales represented 78 percent of total mobile phone sales.<sup>[5]</sup> For **feature phones** (slang: "**dumbphones**") as of 2016, the top-selling brands were Samsung, **Nokia** and **Alcatel**.<sup>[6]</sup>

Mobile phones are considered an important human invention as it has been one of the most widely used and sold pieces of consumer technology.<sup>[7]</sup> The growth in popularity has been rapid in some places, for example in the UK the total number of mobile phones overtook the number of houses in 1999.<sup>[8]</sup> Today mobile phones are globally ubiquitous,<sup>[9]</sup> and in almost half the world's countries, over 90% of the population own at least one.

## TABLETS

A **tablet** (also known as a **pill**) is a **pharmaceutical** oral dosage form (*oral solid dosage*, or OSD) or solid unit dosage form. Tablets may be defined as the solid unit dosage form of medication with suitable **excipients**. It comprises a mixture of active substances and excipients, usually in **powder** form, that are pressed or compacted into a solid dose. The main advantages of tablets are that they ensure a consistent dose of medicine that is easy to consume.

Tablets are prepared either by moulding or by **compression**. The excipients can include **diluents**, **binders** or granulating agents, **glidants** (flow aids) and **lubricants** to ensure efficient tableting; **disintegrants** to promote tablet break-up in the digestive tract; sweeteners or flavours to enhance taste; and pigments to make the tablets visually attractive or aid in visual identification of an unknown tablet. A polymer coating is often applied to make the tablet smoother and easier to swallow, to control the release rate of

the active ingredient, to make it more resistant to the environment (extending its shelf life), or to enhance the tablet's appearance.

Medicinal tablets were originally made in the shape of a disk of whatever colour their components determined, but are now made in many shapes and colours to help distinguish different medicines. Tablets are often imprinted with symbols, letters, and numbers, which allow them to be identified, or a groove to allow splitting by hand. Sizes of tablets to be swallowed range from a few millimetres to about a centimetre.

The compressed tablet is the most commonly seen [dosage form](#) in use today. About two-thirds of all [prescriptions](#) are dispensed as solid dosage forms, and half of these are compressed tablets. A tablet can be formulated to deliver an accurate dosage to a specific site in the body; it is usually taken orally, but can be administered [sublingually](#), [buccally](#), [rectally](#) or [intravaginally](#). The tablet is just one of the many forms that an oral drug can take such as [syrups](#), [elixirs](#), [suspensions](#), and [emulsions](#).