Indicator

The invention relates to an auto-injector for delivering a liquid medicament, which comprises an elongate indication member. Longitudinal movement of this elongate indication member provides visual and/or audio and/or tactile feedback relating to injection progress to a user of the auto-injector. The invention also relates to a method of using such an auto-injector.

Background

An auto-injector is a common type of injector which is designed to deliver a single dose of a liquid medicament. Auto-injectors provide automation of the injection stroke, which alleviates the need for a patient or medical professional to actuate a plunger rod to deliver medication. Many auto-injectors are types of spring-loaded syringes.

Some auto-injectors provide visual indication to confirm that the full dose of a liquid medicament has been delivered. However, unlike conventional syringes, prior art auto-injectors do not allow a user to monitor the release of a liquid medicament from the auto-injector during injection.

Description of the Invention

The invention provides an auto-injector and a method of using an auto-injector, as defined in the appended independent claims, to which reference should now be made. Preferred or advantageous features of the invention are set out in dependent sub-claims.

According to one aspect, there is provided an auto-injector for delivering a liquid medicament, wherein said auto-injector comprises: a rigid outer container; a collapsible container for containing the liquid medicament located within the rigid outer container, the collapsible container having a proximal end and a distal end, an openable closure coupled to the distal end of the collapsible container for retaining the liquid medicament within the collapsible container; an injection means coupled to the openable closure for delivering the liquid medicament from the collapsible container; and pressurising means located within the rigid outer container, the pressurising means providing a force acting on the proximal end of the collapsible container that urges the proximal end of the collapsible container towards the distal end of the collapsible container, thereby pressurising the liquid medicament contained within the collapsible container such that the liquid medicament is

maintained under pressure during storage and delivered through the injection means when the openable closure is opened; the auto-injector further comprising: an elongate indication member located at least partially within the rigid outer container and arranged to move longitudinally towards the distal end of the collapsible container when the openable closure is opened, wherein prior to injection the end of the elongate indication member protrudes beyond the proximal end of the rigid outer container, in which longitudinal movement of the elongate indication member produces visual, and/or audio and/or tactile feedback which informs a user of the auto-injector how far the injection process has proceeded after injection initiation.

~~Thus,~~There is provided an auto-injector for delivering a liquid medicament may comprise a rigid outer container; a collapsible container for containing the liquid medicament located within the rigid outer container, the collapsible container having a proximal end and a distal end; an openable closure coupled to the distal end of the collapsible container for retaining the liquid medicament within the collapsible container; an injection means coupled to the openable closure for delivering the liquid medicament from the collapsible container; and pressurising means located within the rigid outer container; the auto-injector further comprising: an elongate indication member. The pressurising means may be located within the rigid outer container, the pressurising means providing a force acting on the proximal end of the collapsible container that urges the proximal end of the collapsible container towards the distal end of the collapsible container, thereby pressurising the liquid medicament contained within the