CODING OF SYRINGES TO MONITOR THEIR USE

[0001] This invention relates to methods and apparatus for storage, dispensing and use of administrable substances, particularly for anaesthetics. Whilst the invention is primarily directed to anaesthetics, the invention is not limited thereto and may be used in other related areas.

BACKGROUND TO THE INVENTION

[0002] Hitherto, methods and apparatus for storage and use of administrable substances such as anaesthetic drugs and the like, have, in the main, relied upon the skill, alertness and self-imposed systems of practitioners.

[0003] It has long been recognised that errors can and do occur, sometimes with disastrous consequences, particularly in the area of anaesthesia where on occasions, owing to tiredness, distraction, adverse conditions (e.g. emergencies) or lack of attention to procedures which have become routine, errors can be made which can result in extremely serious consequences including patient death.

[0004] A likelihood of errors is also exacerbated by an increasing complexity of drug administration procedures, types of drugs and their subsets, together with often potentially confusing markings, packaging, concentrations and the like which all but the most alert practitioner might otherwise mistake, especially in emergency or other stressful circumstances.

[0005] Many aspects of anaesthesia have highly engineered safety systems, for example, gas bottle pin index systems to prevent the administration of a wrong gas from an anaesthetic machine. Further, gas mixture control systems in place make the administration of a hypoxic gas mixture virtually impossible. These engineering advances operate in conjunction with procedural approaches designed to enhance safety and are backed up by monitors such as in line oxygen monitors and pulse oximeters. In contrast, the administration of intravenous drugs has not changed substantially for many decades, although the number, range and complexity of drugs has undergone an exponential increase.

[0006] The flow-on effect is that in some countries practitioners, and organisations such as the hospitals with whom they work often have difficulty in obtaining at reasonable levels an appropriate degree of negligence or malpractice cover, or the costs of dealing with an accident can be astronomical. Further, there is a trend toward the use of criminal law, for example manslaughter prosecutions, in cases of drug administration error which is of concern to those involved in anaesthesia and related activity.

OBJECTS OF THE INVENTION

[0007] It is an object of this invention to come some way in reducing, the likelihood of errors in substance administration, and/or to at least come some way in overcoming the abovementioned problems or at least provide the public with a useful choice.

[0008] Other objects of this invention will become apparent from the following description.

BROAD DESCRIPTION OF THE INVENTION

[0009] According to one aspect of this invention there is provided a method of monitoring substance administration including the steps of establishing first and second predetermined coded substance sites for a predetermined coded substance carrier, placing said carrier in an at least partially loaded condition prior to use in said first site and after use in an at least partially discharged condition (relative to said at least partially loaded condition) in said second site and maintaining said carrier in said second site for a predetermined period of time.

[0010] According to a further aspect of this invention there is provided a method of monitoring substance administration including the steps of forming a support device having a first predetermined coded substance site for a predetermined coded loaded substance carrier, forming a second predetermined coded site for such carrier, taking said carrier from said first predetermined site for use and, after use, positioning said carrier in the second site.

[0011] According to a further aspect of this invention there is provided apparatus for storage and use of at least one administrable substance carrier including a support defining at least one coded site in relation to which the predetermined coded carrier can be positioned, said site coded and adapted to receive and a predeterminedly coded, loaded carrier, said code provided to enable user verification of said carrier relative to said at least one site.

[0012] According to a still further aspect of this invention there is provided apparatus for storage and use of at least one administrable substance carrier including a support defining at least one coded site in relation to which the predetermined coded carrier can be positioned, said site provided at least as a set of a first site and a second site, said first site coded and adapted to receive a predeterminedly coded, loaded carrier and a second site at least partially commonly coded and also adapted to receive the carrier, said code provided to enable user verification of said carrier relative to said first and second sites.

[0013] According to a still further aspect of this invention there is provided a package of at least one contained administrable substance for administration in accordance with the method as outline above, said package including a support as defined hereinbefore, and wherein at least one of said first sites is charged with a loaded, substantially corresponding coded carrier for said administrable substance and means provided between said carrier and said first coded site for verifying the correct site positioning of said carrier on said site, a second coded site adapted for verification of site position.

[0014] Other aspects of this invention will become apparent from the following description. Modifications are envisaged and may be incorporated without departing from the scope or spirit of the invention.

DESCRIPTION OF THE INVENTION WITH REFERENCE TO THE PREFERRED EMBODIMENTS

[0015] The preferred form of the invention will now be described with reference to the accompanying drawings in which:

[0016] **FIG. 1** is a perspective view of an anaesthetic trolley showing the apparatus of the invention mounted therewith.