Claims

The claims defining the invention are as follows:

1. An apparatus for use in guiding or facilitating the insertion of an elongated medical device into anatomical openings of humans and animals comprising:

    a hand-controlled body having:

        a) a hand connector shaped and sized for connecting and mounting to the hand that is used for guiding or facilitating the insertion of an elongated medical device and
        b) a device connector shaped and sized for capturing the medical device that is to be guided into the anatomical opening of humans and animals

    wherein a medical device in use extends along at least part of the hand connector and along at least one finger of the user allowing for manual guiding of the elongated medical device into the anatomical opening the apparatus further including:

        c) an extension and detent mechanism allowing for deployment by extension of the medical device relative to the device connector to a predetermined distance.

2. An apparatus according to claim 1 further including:

    a release mechanism to allow disengagement of the medical device in situ and allowing retraction of the user's hand and the hand-controlled body while allowing retention of the medical device in situ.

3. An apparatus according to claim 2 wherein the hand connector covers the at least one part of the fingers of the user to provide the connection to the hand.

4. An apparatus according to claim 2 wherein the hand connector resiliently engages between at least one part of the fingers of the user to provide the connection to the hand.

5. An apparatus according claim 2 wherein the device connector is movably engaged with at least one point of the hand connector allowing movement of the device connector relative to the hand connector around the at least one point.

6. An apparatus according to claim 2 wherein the device connector includes an open capturing channel for releasably capturing at least part of the medical device and further includes one or more of:.

a. clips for releasably capturing at least part of the medical device.

b. a sleeve for connection to the medical device.

c. a resilient clamp for clamping the medical device.

7. An apparatus according to claim 6 wherein the device connector includes a stop mechanism to control distance of the extension and detent mechanism allowing for deployment by extension of the medical device relative to the device connector to a predetermined distance.

8. An apparatus according to claim 6 wherein the device connector includes a sliding mechanism to move the medical device and includes a stop mechanism to limit the sliding mechanism to effect the movement to the predetermined distance.

9. An apparatus according to claim 2 wherein the open capturing channel is closed by a removable cover and the release mechanism allows removal of the closed channel and removal of the medical device from the device connector to allow the medical device to remain in situ while the device connector is removed.

10. An apparatus according to claim 9 wherein the removable cover is one of:
    i. a frangible cover.
    ii. a sliding cover
    iii. a tear off strip and
    iv. a releasable cover that is released by movement of one or more releasable tabs.

11. An apparatus according to claim 1 wherein the extension and detent mechanism includes one or more mechanisms of:

    a. A slide mechanism
    b. crossbow/slingshot/elastic launching mechanism
    c. a syringe drive mechanism
    d. a spring-loaded mechanism
    e. a spooling mechanism
    f. a pneumatic piston rod driver mechanism
    g. a hydraulic piston rod driver mechanism
    h. an electromechanical rod driver mechanism
    i. a manual or electric rack and pinion mechanism
    j. a pulley mechanism and
    k. bolt action mechanisms

12. The apparatus of claim 1 wherein the device connector includes an operative holding part for holding part of the elongate medical device, the operative holding part being connectable with the hand connector and adapted to be selectively releasable by hand or finger manoeuvrability by relative movement of at least part of the fingers of the user along which the hand-controlled body extends.

13. The apparatus of claim 1 wherein the hand-controlled body includes an anchoring retention part for aiding retention of the operative holding part on at least part of the hand or fingers of the user.

14. The apparatus of claim 13 wherein the hand-controlled body is a finger sleeve mountable on at least one finger of the user, and wherein the anchoring retention part extends from the finger sleeve and held by at least one finger of the user or the remainder of the user's hand.

15. An apparatus according to according to claim 13 including an extension and detent mechanism including a stop mechanisms controlling insertion depth and allowing for deployment by extension of the medical device relative to the device connector to a predetermined distance.

16. An apparatus according to claim 13 wherein the operative holding part includes at least one resistive holding element which is selectively releasable by the user to allow retraction of the hand-controlled body and the at least one resistive holding element while retaining the elongated medical device in situ.

17. An apparatus for use in guiding or facilitating insertion of an obstetric or gynaecological device via the cervix of women via the vaginal route comprising:

    a hand-controlled body having:

    a. a hand connector shaped and sized for connecting and mounting to the hand that is used for guiding or facilitating the insertion of an elongated medical device; and
    b. a device connector shaped and sized for capturing the medical device that is to be guided into the vaginal opening of the female subject, the device connector including an operative holding part for holding part of the elongate medical device, the operative holding part being connectable with the hand connector; and
    c. an anchoring retention part for aiding retention of the operative holding part on at least part of the hand or fingers of the user;

    wherein a medical device in use extends along at least part of the hand connector and along at least one finger of the user allowing for manual guiding of the elongated medical device into the anatomical opening

the apparatus further including:

d. an extension and detent mechanism allowing for deployment by extension of the medical device relative to the device connector to a predetermined distance; and
e. a release mechanism to allow disengagement of the medical device in situ and allowing retraction of the user's hand and the hand-controlled body while allowing retention of the medical device in situ.

18. An apparatus according to claim 17 wherein the operative holding part is frangible by one of:
    a. application of force
    b. Cutting
    c. Chemically or heat creating a weakened location
    d. Breaking at a pre-weakened location
    e. At least partial forcible detachment from the hand-controlled bod

19. An apparatus according to claim 17 wherein the predefined procedures includes via:
    a. the cervix of women via the vaginal route
        i. Mechanical induction of labour (IOL),
        ii. Fetal scalp electrode (FSE) insertion
        iii. embryo transfer during in-vitro fertilisation (IVF)
        iv. Bakri balloon/balloon tamponade insertion for PPH;
        v. Hystero-contrast-sonography (HyCoSy) or hysterosalpingography (HSG);
        vi. intrauterine pressure catheter (IUPC) insertion,
        vii. Other transcervical procedures
        viii. intrauterine insemination (IUI)
        ix. cervical screening and
        x. any other procedure seeking uterine access via the cervix

    b. the urethra
        i. drainage of urine from bladder
        ii. urinary catheterization

20. A method for guiding or facilitating the insertion of catheters, balloons, and other tubes, wires, rods, threads, or other similar structures into anatomical openings of humans and animals for obstetrics and gynaecology including the steps of:
    a. Mounting a hand-controlled body so as to extend along at least part of the fingers of the user
    b. feeding an elongated medical device through one or more substantially encircling loops on the hand-controlled body that will hold the elongated medical device close to the fingers

c. controlling and manipulating the medical device into the target anatomical opening.
d. Deploying by effecting an extension and detent mechanism allowing for deployment by extension of the medical device relative to the device connector to a predefined protruding distance,
e. allow disengagement of the medical device in situ and allowing retraction of the user's hand and the hand-controlled body while allowing retention of the medical device in situ removing of the user's hand or finger(s) and hand-controlled body while retaining the medical device in situ.
f. wherein the medical device can include one of:
    i. catheters,
    ii. balloons, and
    iii. other tubes,
    iv. wires,
    v. rods,
    vi. threads, or
    vii. other similar structures