

CLAIMS

1. A medical device comprising:

a cap comprising:

5 a cylindrical cavity, the cylindrical cavity having an opening and a flange at the opening, the flange extending radially from the perimeter of the cylindrical cavity;

an outer surface configured to interface with a user;

an inner surface within the cylindrical cavity; and

10 a raised ridge located on the flange, having a small cross-section relative to the flange, and extending perpendicular to the opening of the cylindrical cavity, the raised ridge configured to attach to a removable protective covering.

2. The medical device as recited in claim 1, wherein the cap is comprised of a
15 polypropylene, a polyethylene, a copolymer material or mixtures thereof.

3. The medical device as recited in claim 1 or 2, further comprising a protective cover attached to at least the raised ridge and covering at least a portion of the opening.
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4. The medical device as recited in claim 3, further comprising a foam insert within the cylindrical cavity wherein the foam insert is maintained in a compressed state while the protective cover is attached and the foam insert is configured to extend outside the opening of the cylindrical cavity when the
25 protective cover is removed.

5. The medical device as recited in claim 4, wherein a surface of the foam insert extending outside the opening of the cylindrical cavity comprises different surface treatments, finishes or contours.

6. The medical device as recited in any one of claims 1-5, further comprising an antimicrobial agent disposed within the foam insert.
- 5 7. The medical device as recited in claim 6, wherein the antimicrobial agent comprises:
5 to 50 mg/ml of ethylenediaminetetraacetic acid (EDTA);
at most 70% ethanol, by volume;
at most 7.5% hydrogen peroxide, by volume; and
10 water.
8. The medical device as recited in any one of claims 1-7, wherein the inner surface of the cylindrical cavity of the cap further comprises at least one of:
a tapered stepped surface;
15 a tapered smooth surface;
a stepped surface;
a snap fit flange;
one or more threads;
one or more internal slits; or
20 a wire mechanism to aid in attachment of the cap to another object.
9. A medical device comprising:
a cap having an inner surface with a cylindrical cavity and a flange at the opening of the cylindrical cavity to affix a protective cover, the flange extending
25 radially from the perimeter of the cylindrical cavity and comprising a raised ridge extending distally from the cylindrical cavity and having a small cross-section relative to the flange, the raised ridge configured to fuse with the removable protective cover; and

a foam insert contained within the cylindrical cavity of the cap, the foam insert compressed by the affixation of the protective cover and configured to extend beyond the opening of the cylindrical cavity when the protective cover is removed.

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10. The medical device as recited in claim 9, wherein the foam insert is a cylindrical shape comprising an inner open-cell layer connecting two outer closed-cell layers at the top and bottom of the cylindrical shape.

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11. The medical device as recited in claim 10, wherein the inner open-cell layer of the foam insert includes an antimicrobial composition.

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12. The medical device as recited in claim 11, wherein the antimicrobial composition comprises one or more of a surfactant, water, a low molecular weight alcohol, a peroxide, a peroxide generating agent or a chelating agent.

13. The medical device as recited in claim 10, wherein the outer closed-cell layer of the foam insert comprises a course texture.

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14. The medical device as recited in any one of claims 9-13, wherein the foam insert comprises polyurethane, silicon, silicon rubber, polyethylene, polypropylene, thermoplastic elastomer or mixtures thereof.

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15. A cleaning and disinfecting assembly comprising:

one or more caps, at least one cap having:

an inner surface with a cylindrical cavity and a flange at the opening of the cylindrical cavity, the flange extending radially from the perimeter of the cylindrical cavity; a raised ridge located on the flange and extending perpendicular to the opening of the cylindrical cavity and having a small cross-

section relative to the flange, the raised ridge configured to attach to a removable protective cover; and

a foam insert within the cylindrical cavity of the cap, the foam insert compressed by the attachment of the removable protective cover and configured to extend beyond the opening of the cylindrical cavity when the protective cover is removed; and

a package for storing the one or more caps, the packaging configured to allow the one or more caps to be stored separately and consecutively.

16. The cleaning and disinfecting assembly as recited in claim 15, wherein the foam insert includes an antimicrobial composition, the antimicrobial composition comprises one or more of a surfactant, water, a low molecular weight alcohol, a peroxide, a peroxide generating agent or a chelating agent.

17. The device as recited in claim 15 or 16, wherein the foam insert comprises a course texture.

18. The device as recited in any one of claims 15-17, wherein the cap is comprised of a polypropylene, a polyethylene, a copolymer material or mixtures thereof.

19. A method of preventing the spread of infectious agents comprising:

identifying a surface to be cleansed, sanitized, or disinfected; and

applying a medical applicator to the surface to thereby cleanse, sanitize or disinfect the surface, the medical applicator comprising:

a cap having an inner surface with a cylindrical cavity and a flange at the opening of the cylindrical cavity, the flange extending radially from the perimeter of the cylindrical cavity, the cap including a raised ridge located on the flange and extending perpendicular to the opening of the cylindrical cavity

and having a small cross-section relative to the flange, the raised ridge configured to attach to a removable protective cover;

a foam insert within the cylindrical cavity of the cap, the foam insert configured to extend beyond the opening of the cylindrical cavity when the protective cover is removed; and

a cleansing, antimicrobial or antiseptic agent disposed within the foam insert.

20. The method as recited in claim 19, wherein the surface to be cleaned, sanitized or disinfected is an area of human tissue or an area on a medical device.

21. The method as recited in claim 19 or 20, wherein the cleansing, antimicrobial or antiseptic agent comprises at least one of a surfactant, water, a low molecular weight alcohol, a peroxide, a peroxide-generating agent or a chelating agent.