CLAIMS

1. Apparatus, comprising:

a support, comprising an outer surface and configured for insertion into a body of a subject;

~~an inner layer of an inner polymer, which coats the outer surface of the support;~~

multiple atoms of a radionuclide, which radioactively decays to produce a daughter radionuclide, coupled to the ~~inner layer~~outer surface~~,~~

~~the inner layer allowing diffusion of the daughter radionuclide therethrough~~; and

a~~n outer~~ layer of a~~n outer~~ polymer, which covers the atoms so as to protect the atoms from being washed away, yet allows diffusion of the daughter radionuclide through the ~~outer~~ layer.

2. The apparatus according to claim 1, wherein the atoms are disposed on the ~~inner layer~~outer surface.

3. The apparatus according to any one of claims 1-2, wherein the support is cylindrically-shaped.

4. The apparatus according to any one of claims 1-3, wherein the radionuclide is an alpha-emitting radionuclide.

5. The apparatus according to any one of claims 1-4, wherein the radionuclide comprises an isotope of radium selected from the group of isotopes consisting of: Ra-224 and Ra-223.

6. The apparatus according to any one of claims 1-5, wherein the daughter radionuclide is an alpha-emitting daughter radionuclide.

7. The apparatus according to any one of claims 1-6, wherein a~~n outer layer~~ thickness of the ~~outer~~ layer is between 0.1 and 2 microns.

8. The apparatus according to claim 7, wherein the ~~outer layer~~ thickness is between 0.1 and 1 microns.

9. The apparatus according to any one of claims 1-8, wherein a~~n outer polymer~~ diffusion coefficient of the daughter radionuclide in the ~~outer~~ polymer is at least 10^{-11} cm^2/sec.

10. The apparatus according to any one of claims 1-9, wherein the ~~outer~~ polymer is selected from the group of polymers consisting of: polypropylene, polycarbonate, polydimethylsiloxane, polyethylene terephthalate, poly(methyl methacrylate), and polysulfone.

11. The apparatus according to any one of claims 1-10,

wherein the layer is an outer layer,

wherein the polymer is an outer polymer, and

wherein the apparatus further comprises an inner layer of an inner polymer, which allows diffusion of the daughter radionuclide through the inner layer and coats the outer surface, the atoms being coupled to the outer surface by virtue of being coupled to the inner layer.

12. The apparatus according to claim 11, wherein the atoms are disposed on the inner layer.

~~11. The apparatus according to any one of claims 1-10, wherein an inner-layer thickness of the inner layer is between 0.1 and 2 microns.~~

~~12. The apparatus according to claim 11, wherein the inner-layer thickness is between 0.1 and 1 microns.~~

13. The apparatus according to ~~any one of~~ claim~~s~~ 11~~-12~~, wherein an inner-polymer diffusion coefficient of the daughter radionuclide in the inner polymer is at least 10^{-11} cm^2/sec.

14. A method, comprising:

~~coating an outer surface of a support, which is configured for insertion into a body of a subject, with an inner layer of an inner polymer;~~

coupling multiple atoms of a radionuclide, which radioactively decays to produce a daughter radionuclide, to ~~the inner layer~~an outer surface of a support configured for insertion into a body of a subject~~,~~

~~the inner layer allowing diffusion of the daughter radionuclide therethrough~~; and

subsequently to coupling the atoms to the ~~inner layer~~outer surface, covering the atoms with a~~n outer~~ layer of a~~n outer~~ polymer that protects the atoms from being washed away, yet allows diffusion of the daughter radionuclide through the ~~outer~~ layer.

15~~15. The method according to claim 14, wherein the support is cylindrically-shaped.~~

~~16~~. The method according to ~~any one of~~ claim~~s~~ 14-~~15~~, wherein covering the atoms comprises covering the atoms by withdrawing the support from a solution of the ~~outer~~ polymer such that the layer of the polymer coats the outer surface.

16~~17. The method according to any one of claims 14-16, wherein the radionuclide is an alpha-emitting radionuclide.~~

~~18. The method according to any one of claims 14-17, wherein the radionuclide includes an isotope of radium selected from the group of isotopes consisting of: Ra-224 and Ra-223.~~

~~19~~. The method according to any one of claims 14-15~~18~~, wherein the daughter radionuclide is an alpha-emitting daughter radionuclide.

~~20. The method according to any one of claims 14-19, wherein an outer-layer thickness of the outer layer is between 0.1 and 2 microns.~~

~~21. The method according to claim 20, wherein the outer-layer thickness is between 0.1 and 1 microns.~~

17~~22~~. The method according to any one of claims 14-16~~21~~, wherein a~~n outer-polymer~~ diffusion coefficient of the daughter radionuclide in the ~~outer~~ polymer is at least 10^{-11} cm^2/sec.

18~~23~~. The method according to any one of claims 14-17~~22~~, wherein the ~~outer~~ polymer is selected from the group of polymers consisting of: polypropylene, polycarbonate, polydimethylsiloxane, polyethylene terephthalate, poly(methyl methacrylate), and polysulfone.

19. The method according to any one of claims 14-18,

wherein the layer is an outer layer,

wherein the polymer is an outer polymer,

wherein the method further comprises, prior to coupling the atoms to the outer surface,

coating the outer surface with an inner layer of an inner polymer, and

wherein coupling the atoms to the outer surface comprises coupling the atoms to the outer surface by coupling the atoms to the inner layer.

~~24. The method according to any one of claims 14-23, wherein an inner-layer thickness of the inner layer is between 0.1 and 2 microns.~~

~~25. The method according to claim 24, wherein the inner-layer thickness is between 0.1 and 1 microns.~~

20~~26~~. The method according to ~~any one of~~ claim~~s~~ 19~~14-25~~, wherein coupling the atoms to the inner layer comprises coupling the atoms to the inner layer by depositing the atoms onto the inner layer.