CLAIMS

1. A self-activating dressing for use with a medical device inserted into a skin surface of a patient via a skin insertion site, comprising:

a dressing body impregnated with a nitric oxide releasing compound that releases nitric oxide in response to physiological fluids; and

a slit defined in the dressing body configured to enable the dressing body to be placed around a perimeter of the medical device on the skin surface at the skin insertion site such that the dressing body surrounds and contacts skin insertion site, wherein the slit extends from a central aperture of the dressing body through an outer perimeter of the dressing body, and wherein the slit comprise a width that increases from the central aperture to the outer perimeter.

2. The self-activating dressing of claim 1, wherein the nitric oxide releasing compound impregnated in the dressing body is selected from s-nitroso-n-acetyl penicillamine (SNAP), s-nitrosoglutathione (GSNO), and mixtures thereof.

3. The self-activating dressing of claim 1, wherein the physiological fluid is selected from sweat, interstitial fluid, and blood.

4. The self-activating dressing of claim 1, wherein the dressing body is further impregnated with a catalyst to facilitate release of nitric oxide.

5. The self-activating dressing of claim 4, wherein the catalyst is selected from copper, iron, zinc, selenium, and silver.

6. The self-activating dressing of claim 1, wherein the dressing body is further impregnated with an additional antimicrobial agent.

7. The self-activating dressing of claim 6, wherein the additional antimicrobial agent is selected from chlorhexidine diacetate, chlorhexidine base, chlorhexidine gluconate, and mixtures thereof.

8. The self-activating dressing of claim 6, wherein the additional antimicrobial agent is selected from silver, silver-sulfadiazine, and mixtures thereof.

9. The self-activating dressing of claim 6, wherein the additional antimicrobial agent is selected from ethyl violet, gentian violet, methylene blue, and mixtures thereof.

10. The self-activating dressing of claim 1, wherein the dressing body comprises oxidized cellulose foam.

11. The self-activating dressing of claim 1, wherein the dressing body comprises collagen fibrils.

12. The self-activating dressing of claim 1, wherein the dressing body comprises alginate hydrogel.

13. The self-activating dressing of claim 1, wherein the dressing body is substantially disk-shaped.

14. The self-activating dressing of claim 1, wherein the dressing body comprises a central aperture for reception of the medical device.

15. The self-activating dressing of claim 14, wherein the central aperture has a diameter in the range of 0.04 inches to 0.3 inches.

16. The self-activating dressing of claim 1, wherein the dressing body has an outer diameter in the range of 0.5 inches to 3 inches.

17. The self-activating dressing of claim 1, wherein the dressing body has a thickness in the range of 0.03 inches to 0.2 inches.

18. The self-activating dressing of claim 13, wherein the dressing body comprises a central aperture for reception of the medical device, wherein the central aperture has a diameter in the range of 0.04 inches to 0.3 inches, wherein the dressing body has an outer diameter in the range of 0.5 inches to 3 inches, and wherein the dressing body has a thickness in the range of 0.03 inches to 0.2 inches.

19. The self-activating dressing of claim 1, wherein the medical device is a catheter.

20. The self-activating dressing of claim 1, wherein the dressing body comprises oxidized cellulose foam, wherein the nitric oxide releasing compound impregnated in the dressing body is s-nitroso-n-acetyl penicillamine (SNAP), wherein the dressing body is further impregnated with silver sulfadiazine as an additional antimicrobial agent, wherein the dressing body is further impregnated with a silver catalyst to facilitate release of nitric oxide.