

4. The article of any one of the preceding claims, wherein the first side further comprises a microneedle-free peripheral portion extending laterally from at least a part of the outer perimeter of the platform portion, wherein the peripheral portion is canted away from the platform portion in a second direction opposite the first direction.

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5. The article of claim 4, wherein the article further comprises a side wall portion that extends from the platform portion or, if present, the peripheral portion, and wherein the sidewall portion extends substantially opposite the first direction.

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6. The article of any one of the preceding claims, wherein the central cavity is a closed cavity.

7. The article of any one of claims 1 through 5, wherein the central cavity is a through-hole extending from the first side through the second side.

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8. The article of any one of the preceding claims, wherein the platform is circinate.

5 9. The article of any one of the preceding claims, wherein the at least three hollow microneedles form a circinate array of microneedles.

10 10. The article of any one of the preceding claims, wherein a unitary body comprises the platform portion, the peripheral portion, and the central cavity portion.

10 11. The article of any one of the preceding claims, wherein at least one microneedle of the at least three hollow microneedles comprises:
 a base;
 an elongated body having a central axis and a body diameter;
 a tip portion comprising a tip, a first bevel face oriented diagonally with respect to the
 15 central axis and extending through at least 75% of the body diameter, a second bevel face oriented substantially perpendicular to the central axis and intersecting the first bevel face; a bevel opening defined by a first edge of the first bevel face and a second edge of the second bevel face; and
 a hollow channel that extends axially into the body from the bevel opening.

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12. The article of any one of the preceding claims, wherein at least one microneedle of the at least three hollow microneedles comprises:

a base;
 an elongated body having a central axis;
 25 a tip portion comprising a tip, a beveled surface, and a bevel opening in the beveled surface;
 a first channel that extends axially from the bevel opening through at least a portion of the elongated body, wherein the first channel has a first wall that is substantially aligned with the central axis; and

30 a second channel that extends radially from the first channel to the bevel opening, wherein the second channel has a second wall that is oriented substantially orthogonal to the central axis;

wherein the first channel and second channel merge to form the bevel opening.

13. The article of any one of the preceding claims, wherein at least one microneedle of at least three hollow microneedles comprises a hollow channel extending through the article from a first opening proximate the tip to a second opening in the second side of the article.

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14. The article of any one of the preceding claims, for injecting fluid into a body.

15. The article of any one of the preceding claims, for extracting fluid from a body.

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16. The article of claim 14 or claim 15, wherein the article is operatively coupled to an actuator.

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17. The article of claim 16, wherein the actuator comprises an adhesive assembly, wherein the adhesive assembly comprises a skin-contact adhesive layer that, when the actuator is actuated, is urged against a skin surface.

18. The article of claim 2, wherein the first angle is less than about 45° and/or wherein the second angle is less than about 45°.

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19. The article of any one of claims 1 through 3, wherein the at least three microneedles form a two-dimensional array.

20. The article of claim 19, wherein the array of microneedles is distributed all the way around the platform portion.

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