caps, to contact and be imbibed by the water swellable charge material disposed the microreservoirs corresponding to the activated reservoir caps, and thereby cause the charge material to swell and eject the drug out of the microreservoirs through the drug release apertures and into the depot space for subsequent diffusion through the drug-permeable membrane.

[0009] Disclosed herein is a method for controlled drug delivery to a patient. In embodiments, the method includes (i) implanting a drug delivery device into the patient, e.g., subcutaneously; (ii) activating at least one of the one or more reservoir caps to permit interstitial fluid to contact the drug in the containment reservoir corresponding to the activated reservoir cap(s); and (iii) releasing the drug from the device by diffusion of the drug through the drug-permeable membrane. For example, the contacting of the drug in the activated containment reservoir may transfer the drug into a drug depot space and therein form a drug depot, and then the drug diffuses from the device by diffusion from the drug depot through the drug-permeable membrane. The transfer of the drug from the containment reservoir to the drug depot space may comprise swelling of a water swellable charge material to eject the drug from the containment reservoir.

Brief Description of the Drawings

[0010] The detailed description is set forth with reference to the accompanying drawings. The use of the same reference numerals may indicate similar or identical items. Various embodiments may utilize elements and/or components other than those illustrated in the drawings, and some elements and/or components may not be present in various embodiments. Elements and/or components in the figures are not necessarily drawn to scale. Throughout this disclosure, depending on the context, singular and plural terminology may be used interchangeably.

[0011] FIG. 1 is a perspective view of a drug delivery device according to one embodiment.

[0012] FIG. 2 is a cross-sectional, perspective view of the drug delivery device of **FIG. 1**.

[0013] FIG. 2A is a close-up of a portion of the drug delivery device shown in **FIG. 2**.

[0014] FIG. 3 is an exploded perspective view of the drug delivery device of **FIG. 1**.

[0015] FIG. 4 is a perspective view of a part of the drug delivery device of **FIG. 1**.

[0016] FIG. 5 is a cross-sectional, exploded view of a portion of the microchip element, showing two chip portions that define a single containment reservoir, according to one embodiment. The microchip element would, in preferred embodiments, include a plurality of such containment reservoirs defined in an array within the two chip portions.