ABSTRACT

[0082] Apparatuses and methods for safely inserting of a catheter into a patient and the use of a solid needle. An exemplary apparatus of the present invention includes a needle shaft, which is coupled to a solid needle tip. The needle shaft includes a first end, a second end, and a first dimension. The solid needle tip includes a sharp end and a blunt end, a groove, and a second dimension. The second dimension is greater than the first dimension such that a juncture, which is a step up from the first end, is formed when the needle shaft is coupled to the solid needle tip. The groove runs axially along a surface of said solid needle tip and extends from said sharp end to said blunt end. A catheter is disposed about the needle shaft and the solid needle tip with the solid needle tip protruding from an edge of the catheter. A connector is used to couple the catheter to a safety container, which is partially disposed within a body. The safety container is designed to trap the solid needle tip therein after the solid needle tip retracts into the safety container.