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(54) Title: MATERIALS COLLECTION SYSTEM AND USES THEREOF

(57) Abstract

The present invention relates to instrumentation and uses thereof for collection of cuttings from cutting tools. Cuttings may be from precious metals, toxic or hazardous substances, or from living tissue such as bone. In a particular embodiment of collecting bone cuttings, the present invention includes instrumentation used with a drill bit so that bone cuttings (195) are aseptically collected in a collection chamber (110) for subsequent transplantation purposes. When in use, marrow and bone cuttings (195) are drawn into the flutes (170) of a drill bit (150), carried up the bore of the instrument tip (100) and collect in the collection chamber (110). The flutes of the drill bit (150) can be cleared of residual tissue through the use of a rotating flute wiper (160) that rotates with the drill bit (150) when drilling or when the drill bit (150) is withdrawn from the instrument. In this embodiment, use of the device allows collection of vital bone tissue for reconstruction of bone defects, fractures, or fixation of orthopaedic or dental implants that contact bone.

