



Technology Opportunity, Ref. No. UZ-22/068

New device for arthrocentesis with significantly improved fluid aspiration

A new aspiration device for arthrocentesis is presented which results in a significantly higher amount of aspirated fluid in human cadaveric shoulder specimens compared to standard rigid needles.

Keywords Shoulder infection, shoulder joint aspiration, periprosthetic infection, dry aspiration, punctio sicca, aspiration and irrigation, joint aspiration technique

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Reference in preparation

Background Arthrocentesis of the hip and knee joint to exclude or confirm an infection is well studied and leads to sufficient sensitivity and specificity to guide further treatment. In case of shoulder surgery however, recent studies report a low sensitivity and high rates of dry aspiration. Thus, there is an existing need to approach the technical problems of shoulder joint aspirations and to propose possible approaches that might reduce the rate of dry aspirations and maximize the amount of the obtained fluid.

Invention An improved aspiration device for arthrocentesis based on a flexible catheter has been developed. An experimental cadaver study with the device showed clearly, that a significantly increased amount of fluid can be obtained compared to standard rigid needles. Using this device could therefore significantly increase sensitivity of shoulder joint aspirations in the clinical setting by reducing dry aspirations.

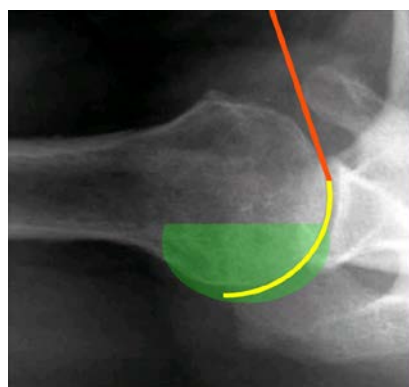


Fig.: Illustration of the course of a rigid needle (orange line) versus a flexible catheter (yellow line) during arthrocentesis. An axial radiograph of a right shoulder in supine position is shown. The green area represents the fluid in the posterior recess of the joint.

Patent Status Patent application filed

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