

# Flat Needle

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## Technology description

### Technical Summary

Ultrasound is used extensively in a wide array of applications, from fetal examinations to diagnosis of deep vein thrombosis. Ultrasound is increasingly being used to aid physicians in visualization of percutaneous procedures. For example, ultrasound can be used to guide a physician in the aspiration of a cyst. Unfortunately, the needles used in such procedures are incredibly difficult to visualize in the ultrasound image because of their geometric orientation. This still leaves the physician with difficult task of guessing the location of the target tissue.

The flat needle is a medical device designed for achieving percutaneous injection, biopsy or aspiration of materials under ultrasound guidance. The needle is capable of facilitating bidirectional flow of solution when injection procedures are performed. The flat needle is qualitatively easier to visualize within the ultrasound beam and consequently, the accuracy of positioning the needle shaft and needle tip within tissues is enhanced. Furthermore, the needle tip appears flat in an ultrasound image.

## Application area

A needle to enhance optical contrast under ultrasound visualization.

## Institution

[Emory University](#)

## Inventors

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