

# FAQ's: ACCULOC<sup>®</sup> IGRT

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## ***What is ACCULOC?***

ACCULOC is a system that includes both hardware and ISOLOC™ software to provide high-precision localization based on three tiny implanted gold markers or bony anatomy for an internal reference system.

## ***Why can't we continue using skin marks and lasers?***

External markers such as lasers, stereotactic frames and body boxes, and bony anatomy do not indicate the precise location of the internal organ to be treated - only the relative location of the organ. External markers, thus, do not tolerate organ motion. Since ACCULOC uses the treatment beam for alignment, the localization is accurate every time.

## ***Do we need an electronic portal imaging device (EPID) to use the ACCULOC system?***

While EPID offers quicker visualization and "real time" localization, standard port films are acceptable. In this situation the markers are digitized from the pair of films. Other electronic systems such as the Kodak 2000CR can also be used.

## ***Can the viewable size of the markers in the ISOLOC software be increased to make them more visible under the cursor/crosshair as they are selected?***

Yes, you can enlarge - or "zoom in" on - the image in the ISOLOC software to mark the gold markers. User-selectable cursors/crosshairs are slated for an upcoming ISOLOC release.

## ***What is the accuracy of ACCULOC?***

The system is independently verified to be accurate to sub-millimeter precision (0.8mm along sagittal, 0.6mm along axial and 0.3mm along coronal).

## ***Is the accuracy of localization user-dependent?***

Since the gold markers are clearly visible on standard port films as well as electronic portal imaging devices (EPID's) and computed radiography (CR) devices such as Kodak, the accuracy of localization by ACCULOC is not user-dependent. ISOLOC also has an autocentering feature reducing potential interuser error.

## ***After acquiring the images of the implanted markers, how do we move the target into position?***

The ISOLOC software outputs both the relative and final couch location information, making quick and exact setup simple and easy to perform.

## ***How long does the process take?***

Experienced users take only 3 minutes and learning how to use ISOLOC is simple.

## ***Can I save patient daily data in the ISOLOC software to track the daily target shifts?***

There is a text file that is created and saved in the patient directory that records both the translational and rotational information of every ISOLOC "run." Graphical representation of this data is then displayed and printed using the new graphic tool.

## ***Is a printout available that shows "before" and "after" table positions?***

A quick "snap" and printout of the ISOLOC couch translator window will provide this information.

## ***Can I use ACCULOC for IMRT localization?***

Yes! The move toward precision treatment with highly conformal dose distributions provided by IMRT has made accurate localization even more important.

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## ***What regions of the body can I localize with ACCULOC?***

ACCULOC can be used wherever gold markers are implantable. It's been used to localize cranial, lung, pancreatic, liver, spine and prostate cases.

## ***How and where are the gold markers placed in the prostate? How long does it take to implant the markers?***

Prostate marker placement is very similar to a biopsy procedure and takes about 10 to 15 minutes. The needles are available pre-loaded and presterilized with the soft tissue markers so they are ready to use. A worksheet describing optimal placement location is provided. (Ask your account rep for a copy to review.)

## ***How long is the sterilization of the pre-loaded needles/markers good for and can the needles be re-sterilized and re-used?***

Sterilization is good for two years. ACCULOC implant needles were specifically developed for our soft tissue gold markers, and are designed for single patient use only.

## ***Will the gold markers migrate within the prostate or outside of the gland?***

ACCULOC soft tissue markers feature a special "knurled" design to inhibit migration after implantation.

## ***How long has ACCULOC been used clinically?***

1989 was the first clinical usage of ACCULOC using implanted gold markers in conjunction with conventional hard copy port films.

## ***Has the FDA given clearance to market the ACCULOC system?***

ACCULOC for cranial usage has been cleared to the market for over 10 years. ACCULOC for extracranial usage was cleared for marketing in 1997.

## ***Can you describe the installation and training of the ACCULOC system? Is it normally completed in one day?***

ACCULOC installation consists of two components: 1) installing the ISOLOC software, and 2) aligning the Central Axis Marker. In most cases, ISOLOC is installed directly on the EPID computer, requiring approximately one hour access to that computer. The Central Axis Marker is aligned to the central axis of the linac and requires about half an hour. A member of the physics, information systems or technical team is required to provide password information for administrator privileges and portal image export information.

Staff training for ACCULOC involves training on marker identification using the treatment planning computer, as well as training on using the Central Axis Marker and running ISOLOC. We provide a training phantom, from which gold markers and target coordinates are extracted and recorded.

## ***We will be provided with any upgrades or new releases to the ISOLOC software?***

One year software maintenance is included with the ACCULOC system. This includes all upgrades during the first 12 months. Annual maintenance contracts are available for purchase beyond the first year.



**Customer Service/Sales:** 800.842.8688 or 712.737.8688 | **Technical Support:** 866.851.4355 | **WWW.CIVCO.COM**