

PREDOPERATIVNO SLIKANJE KOLENA Z MARKERJEM

PREOPERATIVE IMAGING OF THE KNEE WITH A MARKER

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Prejeto/Recived: 13. 1. 2024

Sprejeto/Accepted: 8. 4. 2024

IZVLEČEK

Uvod in namen: Predoperativno slikanje kolena z markerjem vključuje slikanje kolena v anteroposteriorni in stranski projekciji ter slikanje spodnje okončine na dolgi film. Pri slikanju uporabljamo napravo VoyantMark z enotno označevalno kroglico iz nerjavečega jekla, ki omogoča kalibracijo in označevanje kosti.

Namen plakata je predstavitev protokola za predoperativno slikanje kolena z markerjem v Splošni bolnišnici Murska Sobota.

Metode: Pregledali smo literaturo, ki zajema opis in način uporabe markerja, ter predstavili protokol slikanja, ki ga uporabljamo v naši bolnišnici.

Rezultati: Pred vsako operacijo kolena, pri kateri je potrebna vstavev endoproteze, imamo vnaprej določen protokol slikanja. Slikanje vključuje slikanje kolena v anteroposteriorni in stranski projekciji, ki se izvedeta na razdalji 115 cm, ter slikanje spodnjih okončin na dolgi film, ki se izvede na razdalji 300 cm. Slikanje kolena opravimo stoje pri stenskem stavitu, pri čemer mora biti teža enakomerno razporejena na obe nogi. Slikanje spodnje okončine na dolgi film vključuje obe nogi od medenice do gležnja na enem filmu. Obe spodnji okončini sta usmerjeni tako, da je vsaka pogačica obrnjena naprej in sta kolena maksimalno iztegnjena. S pomočjo te slike lahko zdravnik določi os okončine in opravi meritve, potrebne za načrtovanje vstavitve endoproteze. Pri vseh slikah dodamo napravo VoyantMark s kroglico, ki jo namestimo v višino kolenskega sklepa. Kroglica je iz nerjavečega jekla s premerom 25,4 mm in omogoča kirurgom natančen izračun rentgenske povečave. Marker je zasnovan posebej za delo s programsko opremo za kirurško načrtovanje TraumaCad. TraumaCad nato samodejno zazna prisotnost VoyantMark na sliki in natančno določi velikost slike.

Razprava in zaključek: Prednosti uporabe naprave VoyantMark je enostavna namestitvev, kjer s prilagodljivo roko nastavimo kroglico v nivo sklepa. S pomočjo tega markerja lahko TraumaCad zagotovi natančno merjenje anatomije in pomaga izbrati ustrezen protetični pripomoček pred operacijo.

Ključne besede: marker, koleno, dolgi film

ABSTRACT

Introduction: Preoperative knee imaging with a marker involves capturing images of the knee in anteroposterior and lateral projections, as well as imaging the lower limb on a long film. The VoyantMark device with a single stainless steel marker ball is utilized for imaging, enabling calibration and bone marking.

The purpose of this poster is to present the protocol for preoperative knee imaging with a marker at the General Hospital Murska Sobota.

Methods: We reviewed literature covering the description and usage of the marker, and presented the imaging protocol employed at our hospital.

Results: Prior to every knee operation requiring endoprosthesis insertion, we adhere to a predetermined imaging protocol. Imaging comprises capturing anteroposterior and lateral knee projections at a distance of 115 cm, and imaging the lower limbs on a long film at a distance of 300 cm. Knee imaging is performed standing at the wall-mounted stand, ensuring even weight distribution on both legs. Lower limb imaging on the long film includes both legs from pelvis to ankle on a single film. Both lower limbs are positioned with each patella facing forward and knees maximally extended. This image aids the physician in determining limb alignment and conducting measurements necessary for endoprosthesis insertion planning. In all images, the VoyantMark device with a ball is added, positioned at the level of the knee joint. The ball is made of stainless steel with a diameter of 25.4 mm, facilitating precise calculation of radiographic magnification for surgeons. The marker is specifically designed for use with TraumaCad surgical planning software. TraumaCad automatically detects the presence of VoyantMark in the image and accurately determines the image size.

Discussion and Conclusion: The advantages of using the VoyantMark device include easy installation, where the ball is adjusted to joint level with a flexible arm. With this marker, TraumaCad can ensure precise measurement of anatomy and aid in selecting the appropriate prosthetic device preoperatively.

Keywords: marker, knee, long film

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