

Marker implantation trends



Radiotherapy equipment:	Linac with kV imaging	CyberKnife tracking	TomoTherapy (MVCT) and Viewray	Proton therapy with kV imaging	
Implanted marker shape:	Ball or line	Ball	Ball	Ball	Line
Breast	GA80-10-B	GA80-10-B	GA80-20-B	GA150-10 GA200-10	GA80-10-B
Head & neck* and peripheral lung	GA150-10	GA150-10 GA80-10-B	GA150X-20-B	GA150-10	
Abdominal organs**	GA150-20 GA150X-10-B	GA150-20 GA150X-20-B	GA150X-20-B	GA150-10	
Prostate – transrectal implantation***	GA200-10-B	GA200-10-B GA200-20-B	GA200-20-B		GA200-10-B
Prostate – transperineally and Cervix	GA200X-10-B	GA200X-10-B GA200X-20-B	GA200X-20-B		GA200X-10-B
Esophagus, central lung and rectal wall, through endoscope****	GA150-10	GA150-20		GA150-10	
Bladder and rectal wall, through rigid cystoscope/rectoscope	GA350-10-B	GA350-10-B			

Comments

The products mentioned above are those most typically used for a certain application.
 If you prefer more visibility, choose a bigger marker (such options for CyberKnife are marked with grey font above).
 If you find it important to minimize CT artifacts, choose a smaller marker or try to implant the recommended marker with a line shape.
 If the GA150 needle is too flexible for a certain application, try the stiffer GA80, GA150X or GA200 needle instead.

Notes

*Head & neck applications include for example tonsil, nodules, base of tongue and tissue close to the larynx.
 **Abdominal organs include for example liver, pancreas, kidney, adrenal gland and metastases in various places.
 ***If you need a longer needle, use GA250-10-B or GA250-20-B instead.
 ****Some medical teams have chosen to use GA150 to transfer the marker over into the tip of a 22G EBUS-TBNA or 22G EUS-FNA needle, to enable marker implantation through endoscope.

Product codes

Needle Ø	25G (0.5 mm)	22G (0.7 mm)				20G (0.9 mm)		
		15	8	15	20	25	20	35
Marker (mm)	0.28 x 10	GA150-10			GA200-10			
	0.28 x 20	GA150-20			GA200-20			
	0.40 x 10		GA80-10-B	GA150X-10-B	GA200-10-B	GA250-10-B	GA200X-10-B	GA350-10-B
	0.40 x 20		GA80-20-B	GA150X-20-B	GA200-20-B	GA250-20-B	GA200X-20-B	