

Barbagli <i>et al.</i> [199]	NA	1-2 cm: 71% (@60 months)	pQ _{max} < 5 ml/s: 31%	NA	0: 62%
	-	2-3 cm: 51% (@60 months)	pQ _{max} 5-8 ml/s: 53%	-	1: 37%
	-	3-4 cm: 39% (@60 months)	pQ _{max} > 8 ml/s: 83%	-	-
Kluth <i>et al.</i> [198]	Location no predictor	NR	pQ _{max} no predictor	NR	0: 60%
	-	-	-	-	≥ 1: 39%
Pal <i>et al.</i> [201]	NA	< 1 cm: 45%	NR	Single: 35%	0: 30%
	-	1-1.5 cm: 0%	-	Multiple: 0%	1: 23%
	-	> 1.5 cm: 0%	-	-	2: 13%
Launonen [202]	Bulbar: 76%*	< 2 cm: 83%*	NR	NR	0: 26%
	Penile: 71%*	> 2 cm: 0%*	-	-	1: 33%
	-	-	-	-	2: 26%
	-	-	-	-	3: 11%
	-	-	-	-	4: 0%
Redon-Galvez [203]	NR	≤ 1 cm: 71%	NR	NR	NR
	-	> 1 cm: 25%	-	-	-
Güler Y [197]	Bulbar: 30%	<1.85 cm: OR:	NR	NR	NR
	Penile: 34%	0.86 (95% CI:			
	Membranous: 33%	0.74-0.99; p=0.042)			

DVIU = Direct vision internal urethrotomy; NA = not applicable; NR = not reported; pQ_{max} = pre-operative maximum urinary flow; RR: relative risk; OR: Odds ratio; CI: confidentiality interval.

*patency rates are reported after repetitive treatments.

6.2.1.2 Indications of "hot-knife" direct vision internal urethrotomy

6.2.1.2.1 Laser urethrotomy

Lasers available for urological applications, including Neodymium:YAG, Argon, Holmium:YAG, Potassium titanyl phosphate (KTP) and Tm:Yag, have been used for the treatment of urethral strictures. A SR identified four RCTs comparing laser urethrotomy and the "cold knife" urethrotomy. All studies were limited by short-term outcome evaluation and none of these four studies specified the results based on the location of the stricture. Two of these studies reported specific recurrence rates and meta-analysis showed a relative risk (RR) for recurrence of 0.55 (95% CI: 0.18-1.66; p=0.29), 0.39 (95% CI: 0.19-0.81; p=0.01) and 0.44 (95% CI: 0.26-0.75; p=0.003) in favour of laser urethrotomy after three, six and twelve months respectively [210]. Jin *et al.*, performed a SR including 44 case series on laser urethrotomy or "cold knife" DVIU [211]. This included nineteen articles on laser urethrotomy and 25 articles on "cold knife" DVIU. The overall weighted average stricture-free rate was 74.9% (371/495) and 68.5% (1874/2735) for laser vs. "cold knife" DVIU, respectively (p=0.004). Although statistically significant, the results must be interpreted with caution because of heterogeneity and because no details are provided on follow-up duration. Specifically looking at first DVIU, laser and "cold knife" DVIU obtained a stricture-free rate of 58.6% and 42.7%, respectively and the difference was no longer statistically significant (p=0.09). At the bulbar urethra, laser and "cold knife" DVIU yielded a stricture-free rate of 52.9% and 60%, respectively (p=0.66) [211].

After publication of this SR, the EAU Guideline Panel scope search identified three additional RCTs [212-214]. In the RCT of Yenice *et al.*, patients with a primary, bulbar stricture were randomised either to "cold knife" DVIU (n=29) or holmium:YAG laser urethrotomy (n=34). After twelve months follow-up, no significant difference in patency rate was identified (79% for "cold knife" DVIU vs. 68% for laser urethrotomy, p=0.3) [213]. In their RCT, Chen *et al.*, reported a better patency rate after one year with laser (n=24) compared to "cold knife" (n=22) DVIU (respectively 88% vs. 18%; p < 0.05). However, after two years the benefit for laser disappeared and after five years both techniques showed a low patency rate: 9% for "cold knife" DVIU vs. 12% for laser DVIU (p > 0.05) [212]. Gamal *et al.*, randomised patients between "cold knife" DVIU (n=40) and Holmium:Yag laser DVIU (n=40). At one year, they found an equally effective improvement of maximum urinary flow in both groups.