

## Benchmarking Consent in Nephrostomy

### UK Nephrostomy Audit (2007)

#### Success rates related to operator experience

Cases per year	Success	Failure
<10	470	14 (2.9%)
10-20	823	15 (1.8%)
>20	1889	28 (1.5%)

#### Targets based on published literature and RCR prospective audit

Parameter	Acceptable	Achievable
Technical success rate	≥88%	≥94%
Major complication rate	≤8%	≤5%
Minor complication rate	≤15%	≤12%
Repeat rate	≤20%	≤10%

**Technical success rate:** 94%

**Operators performing > 20-procedures/ year** are significantly less likely to have complications.

**Low frequency operators** did however achieve a satisfactory success rate of 97.1%, well above the target of 94%. **We note that nephrostomy can be a lifesaving procedure and that even in the hands of low volume operators, complication rates are low.**

**Failure rate in non-obstructed systems:** 17%

**Compared with** 1.4% (mildly dilated), 1.2 % (moderately dilated) and 1.4 % (severely dilated).

**Sepsis** mainly attributed to the deaths and majority of the major complications ≤15%.

**Overall complication rate:** 6.3%

## **Society of Interventional Radiology (2011)**

Combined major and minor complication rates of PCN placement of ~10% with a mortality rate of 0.05 to 0.3%.

### **Bleeding complications:**

Transient minor bleeding: ≤ 95%

Severe post procedure bleeding (haematuria, retroperitoneal bleeding) requiring transfusion or other intervention: 1 to 4% of patients.

### **Injury to adjacent structures:**

Injury to adjacent organs, most commonly the **pleura or colon**, is very uncommon.

Incidence of colonic perforation: < 0.2% of cases.

Pleural complications: 0.1 to 0.2% (pneumothorax, haemothorax, or nephropleural fistula).

### **Sepsis:**

Septic shock, with fevers, chills and hypotension is less common and reported to occur in 1 to 3% of all patients and 7 to 9% of patients with pyonephrosis.

### **Technical success rates:**

Dilated, obstructed collecting systems: 98 to 99% of patients.

Non-dilated systems or for complex stone disease: 85-90%

### **References:**

N. Chalmers, K. Jones, K. Drinkwater, R. Uberoi, J. Tawn. The UK nephrostomy audit. Can a voluntary registry produce robust performance data? *Clinical Radiology*. 2008; 63, 888-894.

ACR–SIR–SPR Practice Parameter For The Performance Of Percutaneous Nephrostomy. Res. 42 – 2011, Amended 2014 (Res. 39).

[http://www.acr.org/~media/ACR/Documents/PGTS/guidelines/Percutaneous\\_Nephrostomy.pdf](http://www.acr.org/~media/ACR/Documents/PGTS/guidelines/Percutaneous_Nephrostomy.pdf)