

## CHANGING TRENDS IN THE MANAGEMENT OF RENAL TRAUMA

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**Introduction:** As with other solid abdominal organ injuries, operative management of renal injuries continues to decrease. **Methods:** Retrospective review of patients sustaining renal trauma over a 5-year period at 4 Level I Trauma Centers. Patients were identified from trauma registries and departmental databases. Data collected included demographics, mechanism, associated injuries, injury grade, management and outcome. **Results:** 385 patients were identified (64% blunt, 36% penetrating; age  $31 \pm 15$ ; 77% male, 23% female). Grade II injuries were most common 109/385 (28.3%), then Grade III (106/385; 27.5%); Grade I, IV, and V injuries accounted for 15%, 17%, and 12%, respectively. Two patients were omitted as the mechanism of injury was unclear. Of the 245 patients with blunt renal injuries, 203 (83%) were managed nonoperatively, 34 (14%) required operation, and 8 (3%) underwent angioembolization (AE). Of the 138 patients with penetrating injuries, 94 (68%) required operation, 41 (30%) were managed nonoperatively, and 3 (2%) underwent AE. The table depicts injury management over time.

Mechanism	Management	1999	2000	2001	2002	2003	2004	Overall
<b>Blunt</b>	Nonoperative	84%	66%	92%	100%	85%	68%	83%
	Operative	11%	17%	8%	0%	14%	27%	14%
	AE	0%	5%	0%	0%	2%	5%	3%
<b>Penetrating</b>	Nonoperative	0%	33%	50%	50%	28%	29%	30%
	Operative	100%	50%	50%	50%	70%	70%	68%
	AE	0%	17%	0%	0%	2%	0%	2%

A renal operative procedure was performed in 128 patients: 59 nephrectomies, 38 renorrhaphies, 7 partial nephrectomies, and 24 “other.” Overall mortality was 12%; no death was attributable to the renal injury alone. **Conclusions:** 1. Blunt renal injuries are currently treated nonoperatively in over 80% of patients. 2. Reflecting the increasing use of CT to evaluate stable patients with penetrating flank wounds, nearly 1/3 of patients with penetrating renal injuries are now treated nonoperatively, as well. 3. Despite advances in AE, these techniques are rarely employed in the management of renal injuries.