



University of California
San Francisco

Perilunate Fracture Dislocations: Diagnosis and Treatment

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May 25th, 2023

Disclosures

- None

Perilunate Injuries

- High energy trauma
- Wrist injuries ~2.5% of all ED visits
 - 5-7% of carpal injuries are perilunates
 - 25% are missed injuries
 - 10% open injuries
 - 26% are associated with polytrauma
 - Acute median nerve symptoms range from 24% - 45%



Perilunate Injuries

- Perilunate vs Lunate dislocations
 - Perilunate fracture-dislocations
 - 97% are dorsal, 3% are volar
 - Trans-scaphoid perilunates 61% of all injuries



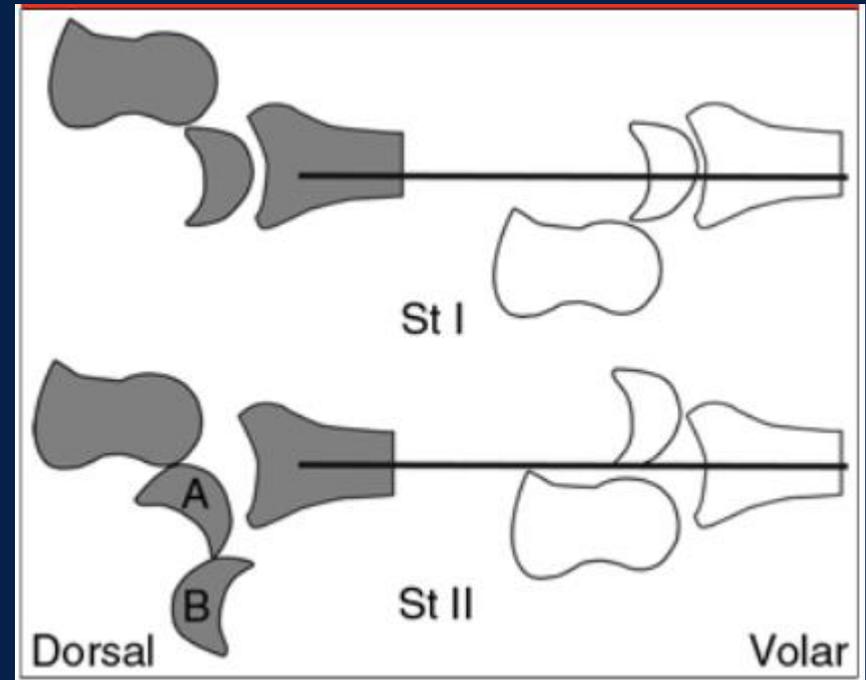
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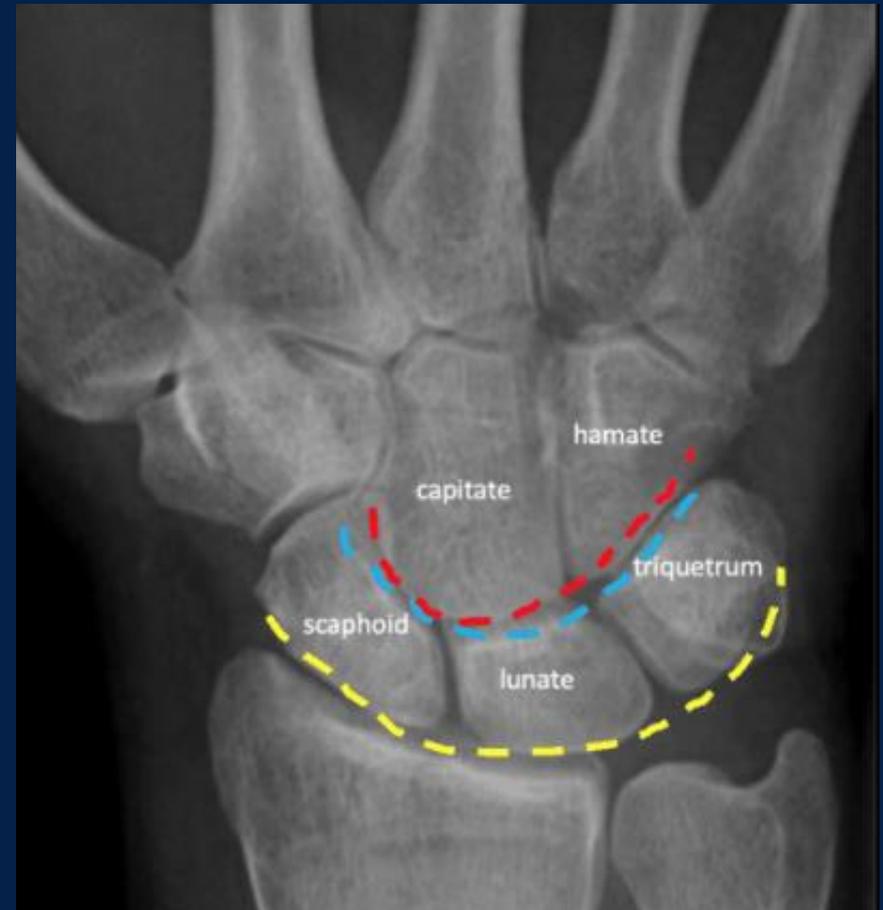
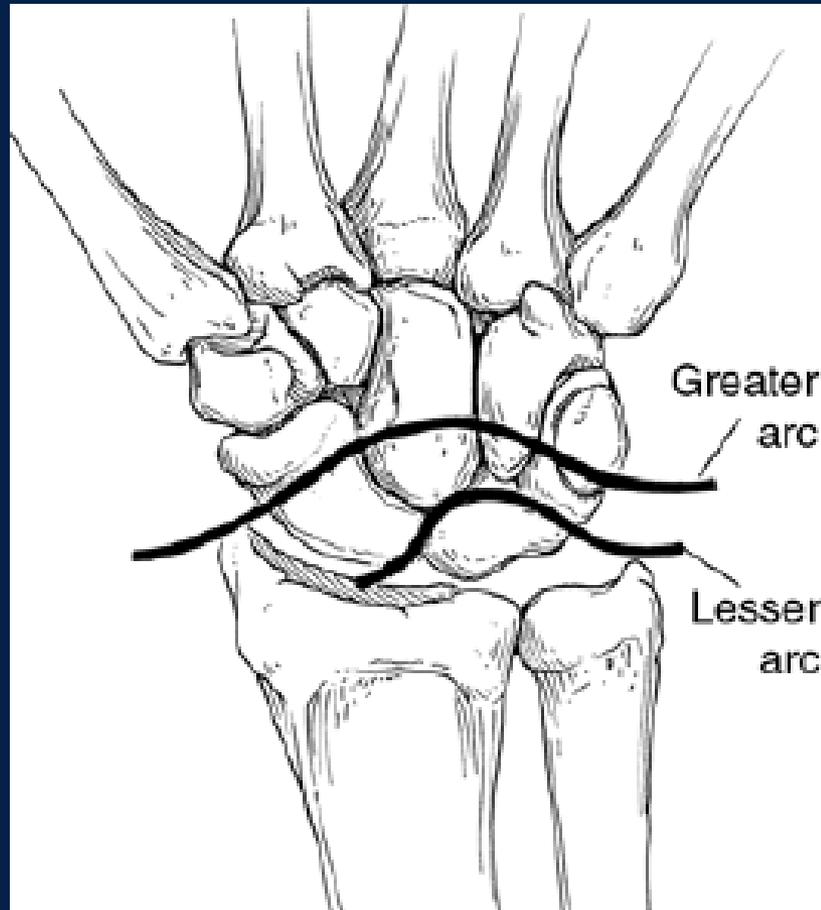


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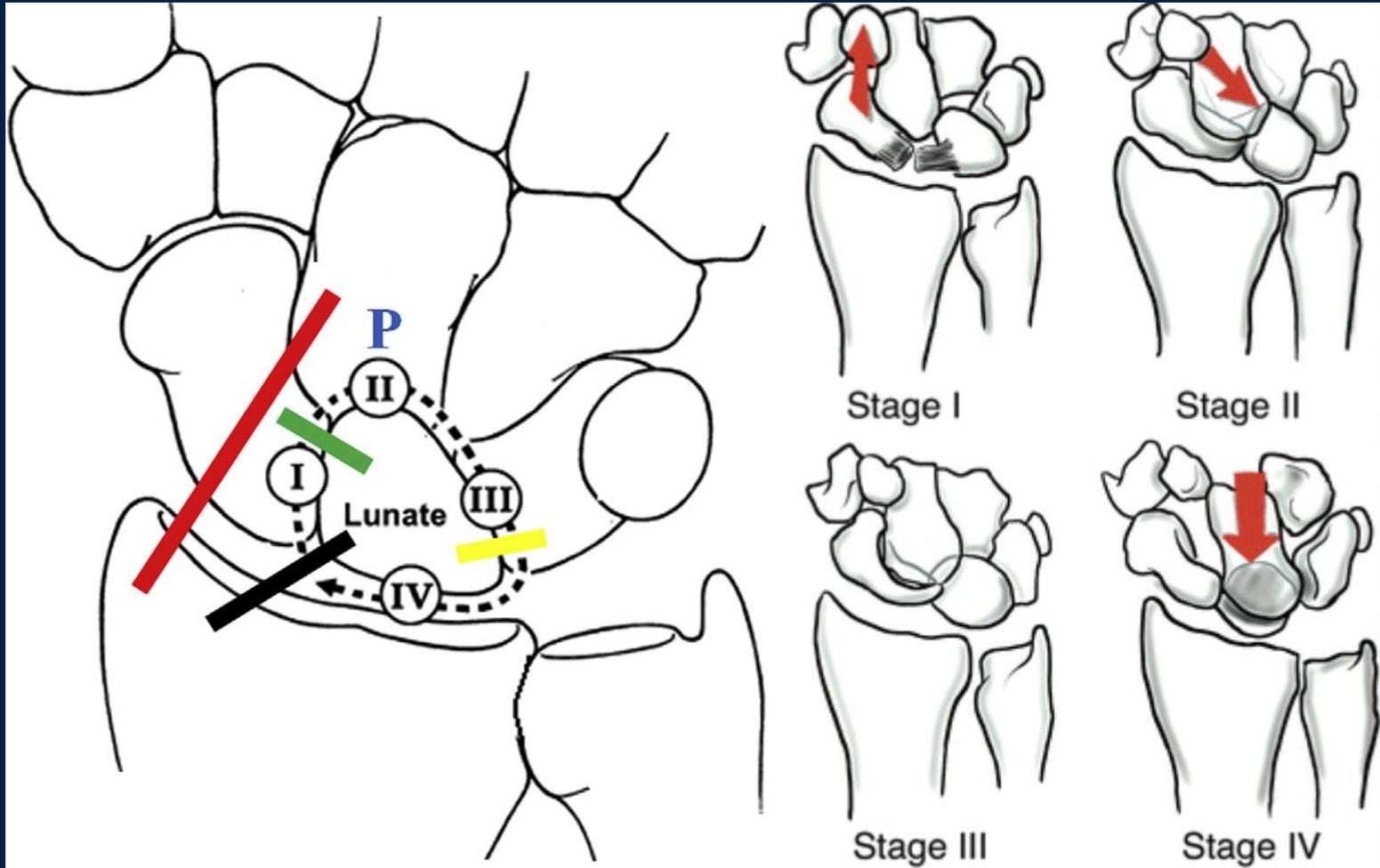
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Carpal Arcs



Mayfield Classification



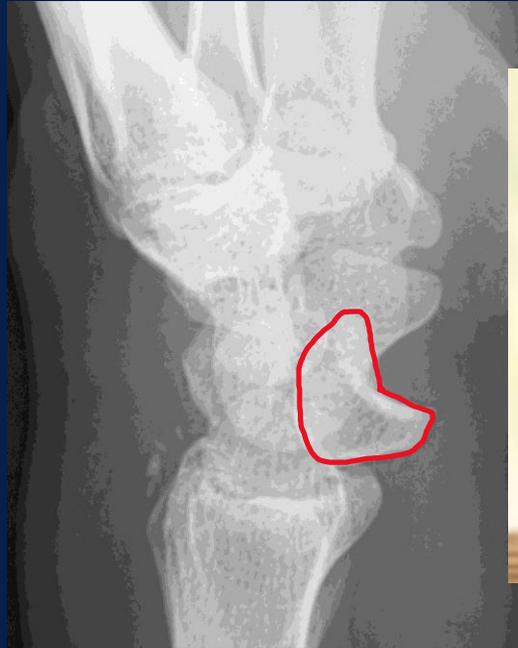
Diagnosis and Imaging

- Standard wrist PA and lateral radiographs



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Diagnosis and Imaging

- Standard wrist PA and lateral radiographs
- CT imaging
 - Occult fractures
 - Preoperative planning



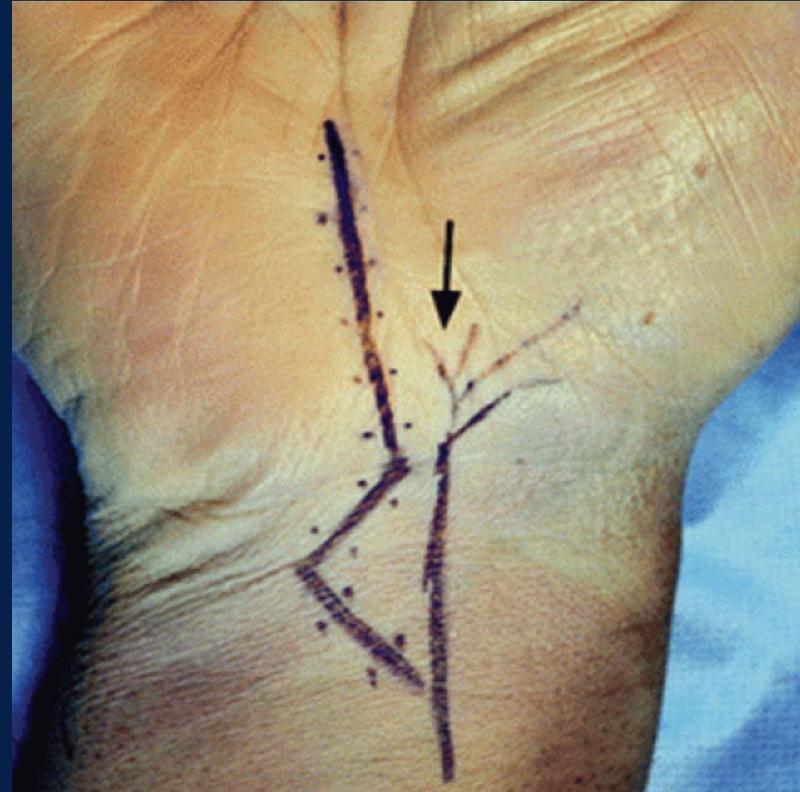
Management

- Initial management
- +/- Acute carpal tunnel
- Surgical timing
- Approach
 - Volar
 - Dorsal
 - Combined
- +/- Fractures



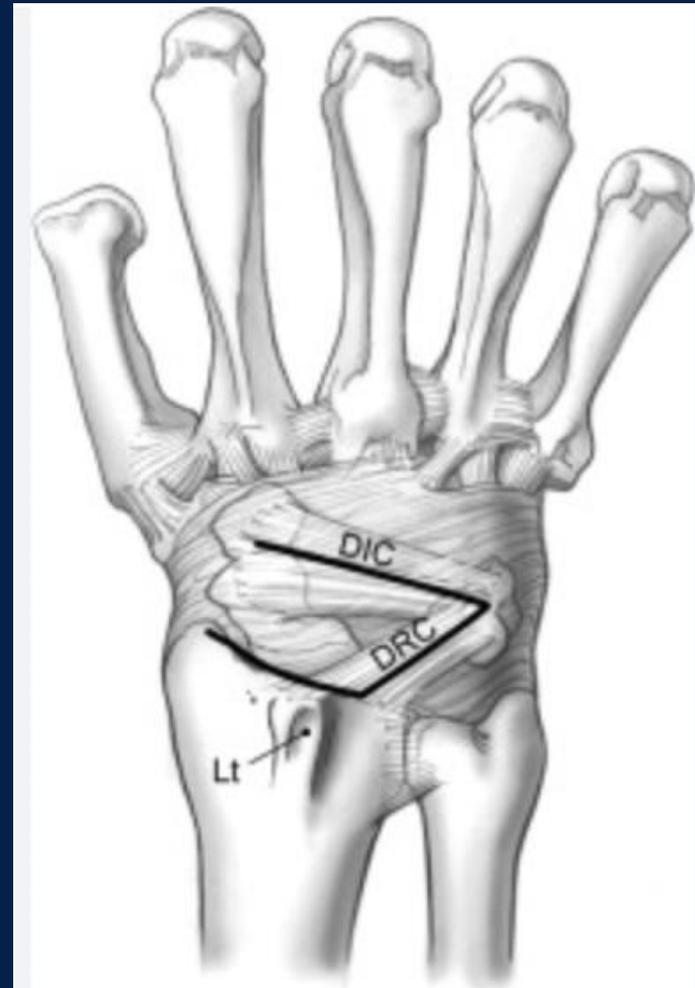
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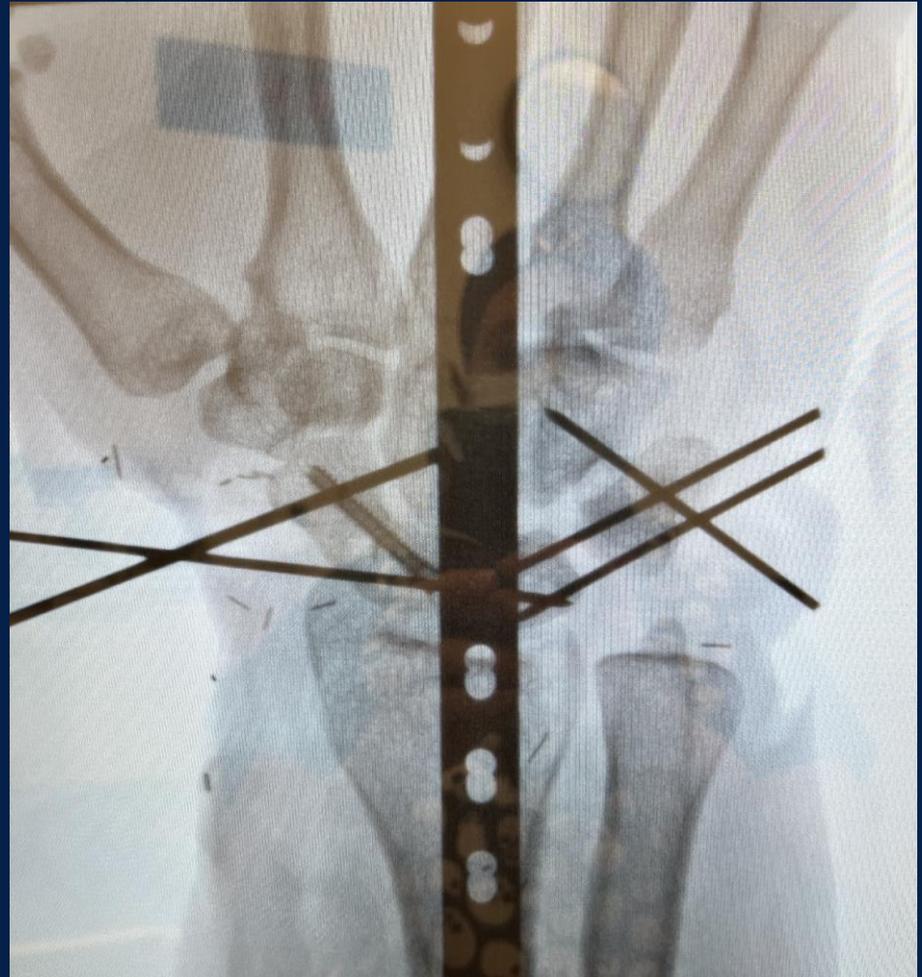
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Operative Sequence

- Goal is to get the lunate in neutral
- Fracture fixation
- Pin SL, LT and +/- SC
- Repair SL ligament



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Outcomes

- Poor prognosis:
 - Open injuries
 - Delayed treatment
 - Osteochondral fractures of capitate
 - Persistent carpal malalignment
- Improved outcomes
 - Early reduction and stable fixation with ligament repair

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- Improved outcomes
 - Early reduction and stable fixation with ligament repair
- Wrist flexion/extension: 60-70%
- Grip strength: 70-80%
- Posttraumatic arthritis: approaches 100%
 - Midcarpal and/or radiocarpal
- Most patients are able to return to their occupation

Outcomes

Table 1

Outcomes in Surgically Treated Perilunate Dislocation and Perilunate Fracture-dislocation

Study	No. of Cases	Average Follow-up	Type	With Acute Carpal Tunnel Syndrome (%)	Employed (%)	Average Flexion/Extension Arc (% of contralateral)	Average Grip Strength (% of contralateral)
Trumble and Verheyden ⁹	22	49 mo	Dislocation only	32	100	80	77
Knoll et al ¹⁰	25	44.3 mo	Fracture-dislocation only	24	100	83	80
Sotereanos et al ¹²	11	30 mo	Both	45	45	71	77
Hildebrand et al ¹¹	23	37 mo	Both	35	82	57	73
Herzberg and Forisser ³²	14	8 yr	Fracture-dislocation only	29	86	N/A	79
Forli et al ²⁸	18	13 yr	Both	N/A	N/A	76	87

N/A = not available

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Thank you!

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