

OSTEOARTHRITIS - SCAPHO-TRAPEZIO-TRAPEZOID (STT)

Prevalence 1% of 1711 AE patients over 30yr age
10% of 143 post-menopausal women

Incidence F:M=2:1

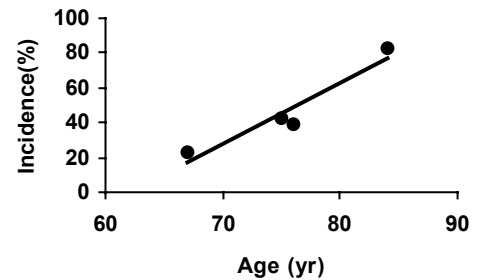
Pan-trapezial 87 patients undergoing trapeziectomy
52% has radiological evidence of STT-OA

Aetiology Age related
Trauma
TT inclination
Capito-trapezial ligament laxity
Rotatory subluxation



Symptoms None
Pain
Swelling
Stiffness

Signs Swelling at scaphoid pole
Tender at scaphoid pole and ASB
Stiffness
Radial grind (figure)



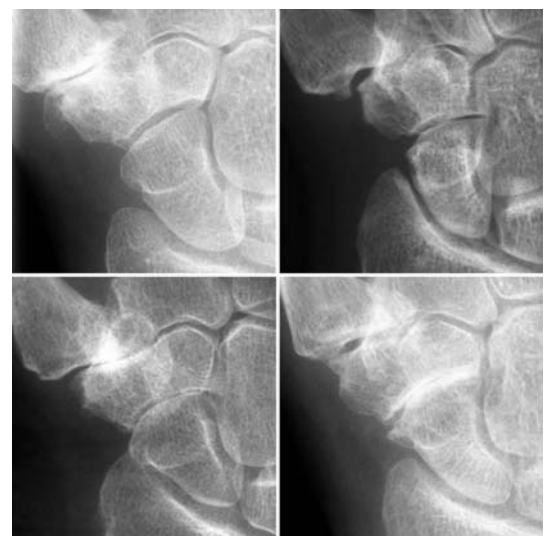
Differential Trapezio-metacarpal arthritis
SLAC & SNAC wrist
De-Quervain's tenovaginitis
Ganglion



Radiography 0 Normal
1 Joint space narrowing
2 Joint space disappearance
3 Erosions, sclerosis

Treatment Activity modification
NSAID
Splint
Surgery

Surgery Trapeziectomy
Excision arthroplasty
Interposition arthroplasty
Denervation
Arthrodesis



STT resection
(Garcia Elias)

N	21
M:F	4:17
Age	59
Anterior:Posterior	9:12*
Capsular flap	9*

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Results

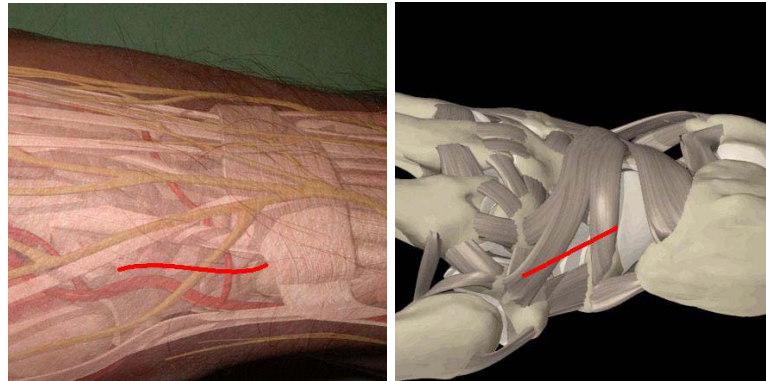
	Pre	Post
VAS	7.5(1.3)	0.6(0.8)
ROM	Unchanged	
Grip*	57%	83%
Pinch*	53%	93%
Radio-lunate angle	9(7)	17(10)

STT arthrodesis

Technique

RA/GA, Arm/forearm tourniquet

Longitudinal dorsal incision



Ulnar deviation helpful to explore. Identify and preserve the radial nerve branches

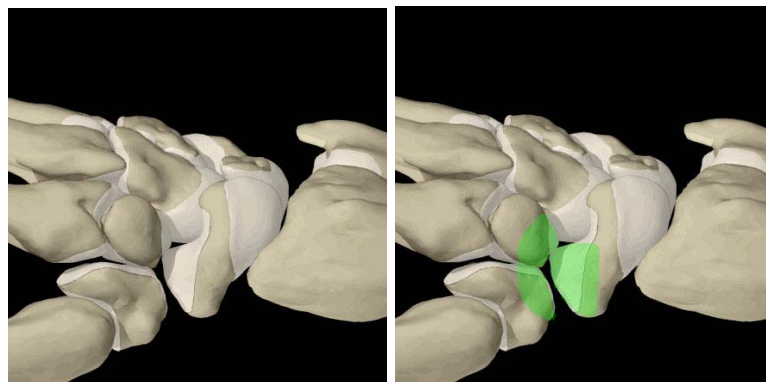
Identify the STT joint if necessary with image intensifier (II)

Excise the distal scaphoid and proximal trapezium and trapezoid to healthy cancellous bone and create a large surface area

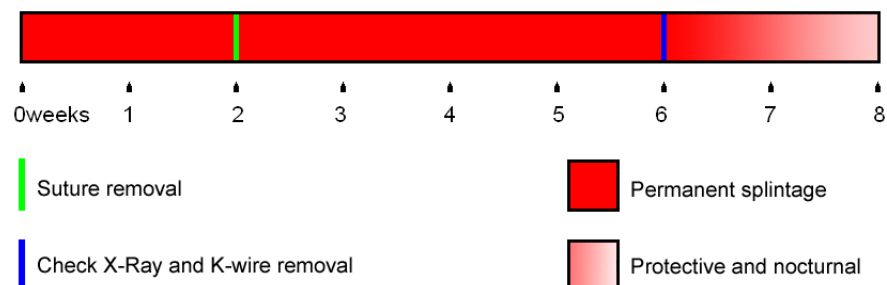
Reduce the scaphoid to an angle of c. 40-60° to the long axis of the radius and hold with 2 x 1.1mm K wires (II) that are best buried.

Harvest and pack with cancellous bone graft; iliac crest best

Close capsule and skin



Rehabilitation



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Results (Watson et al.) 798 patients, M:F = 430:368, Ages 17-74years, FU = 52(12-197)m
 Immobilisation = 48(30-294) days, Time off = 15(1-56) weeks
 Function improved 86%
 Original employment 88%
 Movement 75% of other side
 Power >80% of other side

Movement	A	B	C	D
Flex/Ext	62%	69%	93%	79%
RD/UD	-	50%	81%	67%
Grip strength	72%	64%	80%	-

A: Frykman et al. J Hand Surg 1988, 13A, 844. (19, Various)

B: Sauerbier et al. Ann Plast Surg 2000, 44, 618. (26, Keinbocks)

C: Srinivasan & Matthews, J Hand Surg 1996, 21B, 378. (8, STT-OA)

D: Rogers & Watson, J Hand Surg 1990, 15A, 232. (21, STT-OA)

Complications (Kleinman et al.) 47 wrists in 46 patients with scapho-lunate disassociation
 52% complication rate

Pin tract infection	4
Osteomyelitis	2
Lunate avascular necrosis	1
Non-union	7
Radio-scaphoid impingement	2
Progressive arthritis	7
Intractable pain	3
Carpal translation	2

Potential problems Altered kinematics
 Radial styloid impingement
 SLAC degeneration
 Radial styloidectomy?

Summary Trapeziectomy for pantrapezial OA
 STT fusion for isolated STT-OA
 Non-union is main complication
 Good outcome if union achieved
 STT excision simpler and better?

References Davey PA, Belcher HJCR. Scapho-trapezio-trapezoidal joint osteoarthritis. Current Orthopaedics 2001; 15; 220-8.

Eckenrode JF, Louis DS, Greene TL. Scaphoid-trapezium-trapezoid fusion in the treatment of chronic scapholunate instability. J Hand Surg 1986, 11A, 497.

Kleinman et al. Scapho-trapezio-trapezoid arthrodesis for treatment of chronic static and dynamic scapho-lunate instability: a 10-year perspective on pitfalls and complications J Hand Surg 1990, 15A, 408.

Kozin SH The surgical treatment of Scaphotrapeziotrapezoid osteoarthritis. Hand Clinics 2001,17, 2, 303-314.

Minamikawa Y, Peimer CA, Yamaguchi T, Medige J, Sherwin FS. Ideal scaphoid angle for intercarpal arthrodesis. J Hand Surg 1992: 17A: 370-375.

Watson HK et al. One thousand intercarpal arthrodeses. Journal of Hand Surgery 1999, 24B, 307-315.