



Effects of LLLT on the peri-arthritis of the shoulder: a clinical study on different treatments with corticosteroid injections or a wait-and-see policy



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Proc. SPIE 5968, Laser Florence 2004 2004 Proc. SPIE 5968, Laser Florence 2004:

A Window on the Laser Medicine World, 59680J (October 25, 2005); doi:10.1117/12.660073

Long-term differences between injections and Ga-As (904 nm) LLLT were significantly in favor of LLLT.

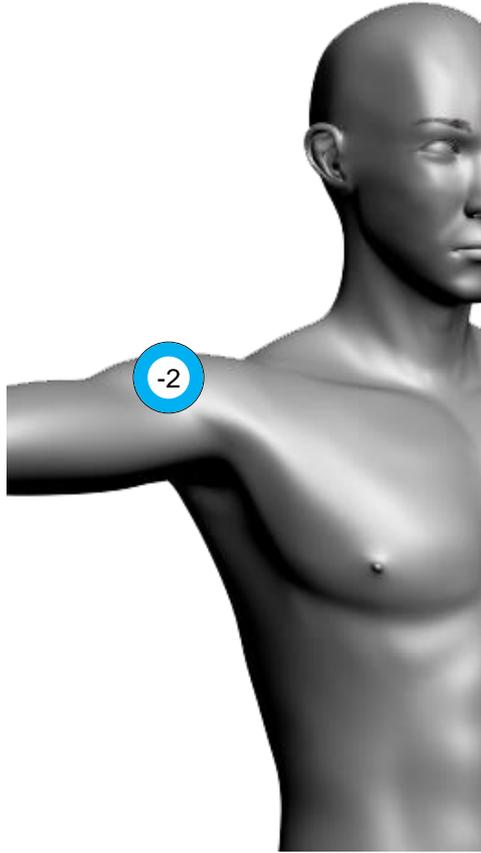
The aim of the study was to compare the efficacy of three types of treatments in the peri-arthritis of the shoulder: corticosteroid injections, Laser (Ga-As 904 nm) LLLT or wait and see policy. **BACKGROUND DATA:** Low level laser irradiation is a treatment method used in medicine for a long time. It is also being used as a complementary therapy for patients with pain, have been treated with LLLT. **METHODS:** Patients, suffering from peri-arthritis of the shoulder of at least 6 weeks' duration, were recruited by family doctor. We randomly allocated eligible patients to 6 weeks of treatment n. 20 (33%) with corticosteroid injection, n. 21 (35%) with LLLT and with wait-and-see policy n.19 (31%). We applied a number of 12 sessions with infrared Diode Laser Ga-As (904 nm), 60 W maximum power, peak power per pulse 27 W, pulse frequency 1280 Hz, average point region 2-8 J; dose/point = 3-4 J; total energy density 24 J/cm². Outcome measures included general improvement, severity of the main complaint, pain, shoulder disability, and patient satisfaction.

The decision to treat with LLLT or to adopt a wait-and-see policy might depend on available resources, since the relative gain of LLLT is better, but also small at long-term.

Severity of shoulder complaint, duration and elevation of arm, and the pressure pain threshold were assessed. The statistical analysis was done using the chi-square test. At 6 weeks, corticosteroid injections were significantly better than all other therapy options for all outcome measures. Such differences were not significant at 52 weeks. At 52 weeks, differences between injections and LLLT were significantly in favour of LLLT. Success rate at 52 weeks were 14 (70%) for injections, 19 (90.5%) for LLLT, and 16 (84%) for wait-and-see policy. LLLT was significantly better than wait-and-see policy (p < 0.0001). **CONCLUSIONS:** Patients should be properly informed about the advantages and disadvantages of the treatment options for the peri-arthritis of the shoulder. The decision to treat with LLLT or to adopt a wait-and-see policy might depend on available resources, since the relative gain of LLLT is better, but also small at long-term.



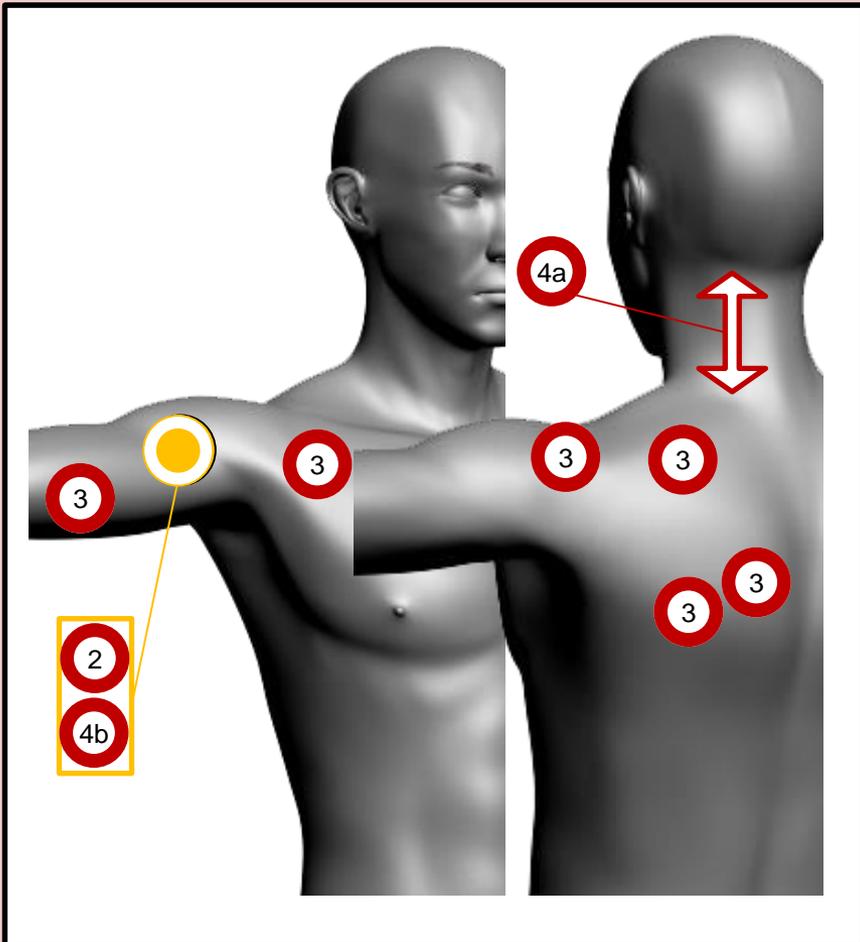
Priority Principle™: Shoulder Bursitis



Priority	Principle	Frequency	Time
-2	<48 Hours (Acute Injury)	5-1000 Hz	3 Minutes

# of treatments					

Priority Principle™: Shoulder Bursitis

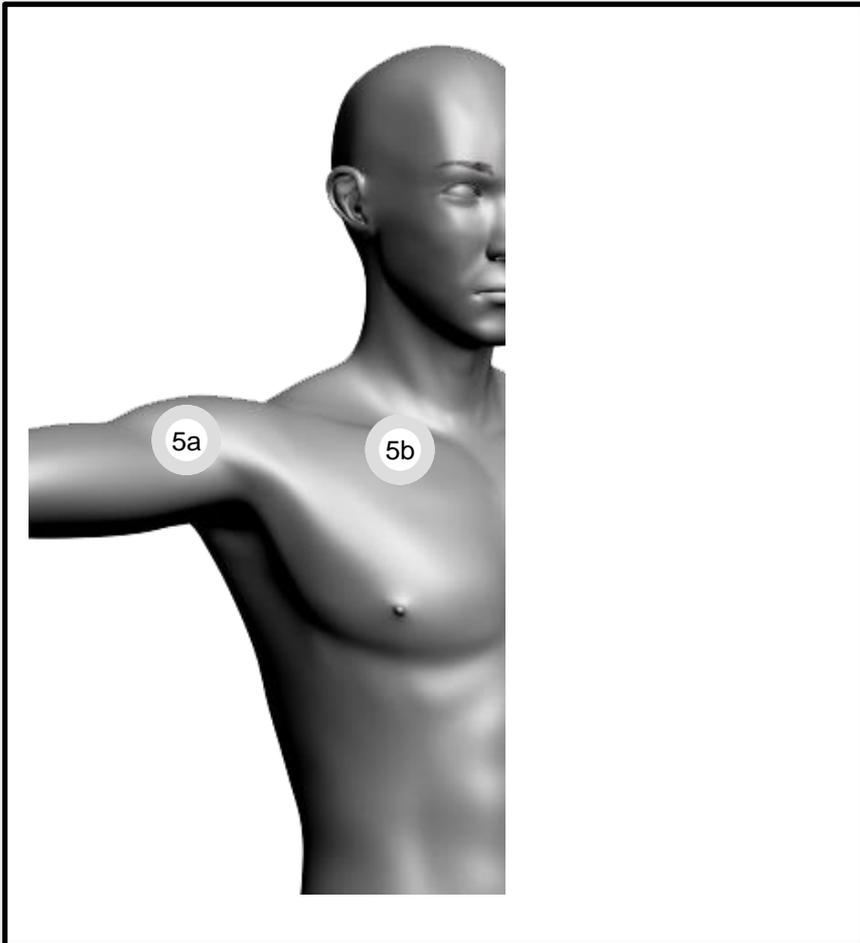


Priority	Principle	Frequency	Time
0	Pain (PRN)	(PRN)	
2nd	Inflammation	50 Hz	DOSE
3rd	Spasms	1000 Hz PRN	Pontinen's Principle
4th (a)	Pain (Systemic)	1000 Hz NRT	See Method
OR			
(b)	Pain (Local)	1000, 3000 or 5000 Hz	3-5 minutes

# of treatments					



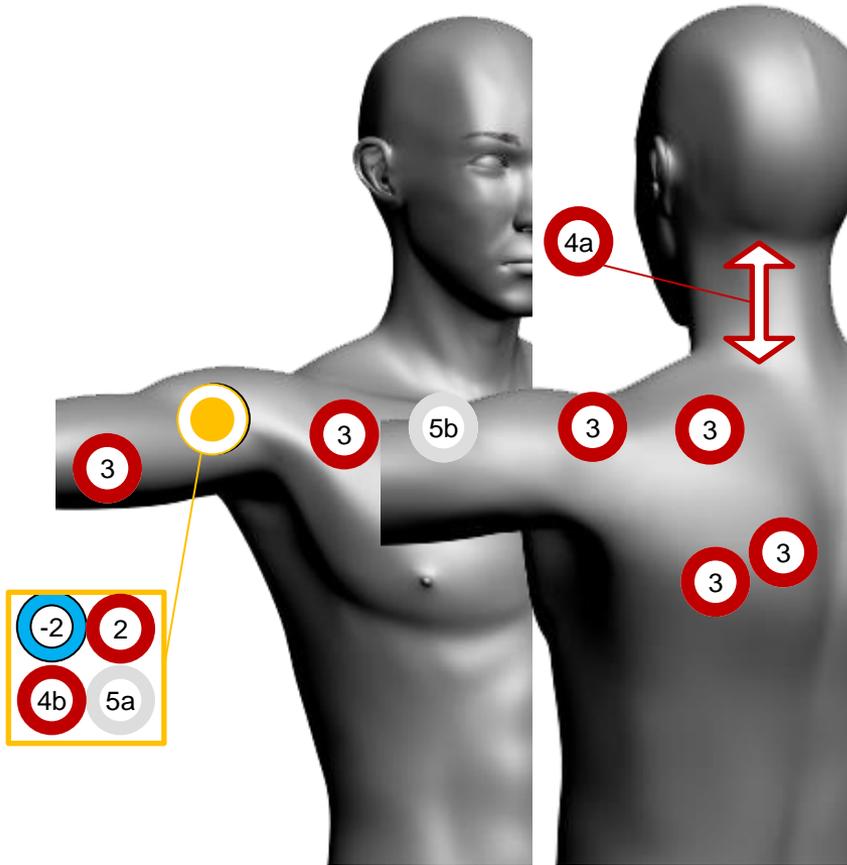
Priority Principle™: Shoulder Bursitis



Priority	Principle	Frequency	Time
5th	(a) Tissue Repair (Primary)	5-250 Hz	DOSE
	and		
	(b) Tissue Repair (Secondary)	50 Hz PHT @ subclavian artery	5 minutes

# of treatments					

Priority Principle™: Shoulder Bursitis



Priority	Principle	Frequency	Time
-2	<48 Hours (Acute Injury)	5-1000 Hz	3 Minutes
0	Pain (PRN)	(PRN)	
2nd	Inflammation	50 Hz	DOSE
3rd	Spasms	1000 Hz	Pontinen's Principle
4th (a)	Pain (Systemic)	1000 Hz NRT	See Method
OR			
(b)	Pain (Local)	1000, 3000 or 5000 Hz	3-5 minutes
5th (a)	Tissue Repair (Primary)	5-250 Hz	DOSE
and			
(b)	Tissue Repair (Secondary)	50 Hz PHT (Popliteal)	5 minutes

