

830LASER SPECIFIC TREATMENT PROTOCOLS

	J/SQ CM	POINT SPACING	TREATMENT INTERVAL	FOLLOWUP INTERVAL	TOTAL NUMBER OF TREATMENTS	NOTE	BENEFITS
SKIN DISORDERS							
OPEN WOUNDS	1.0	1 cm	ONCE A WEEK FOR THE FIRST TWO WEEKS AND THEN 2-3 TIMES WEEKLY			TO RESOLUTION OR 45 DAYS WHICHEVER COMES FIRST	
DERMATITIS	0.5-1.0	6 sq cm	DAILY OR EVERY OTHER DAY		2-8	Temporary exacerbation of the symptoms is often seen after the first treatment because of increased circulation	
ECZEMA	0.5-1	6 sq cm	DAILY OR EVERY OTHER DAY			Treatment for skin diseases may result in an increase of pain due to the pressure of the laser probe, However, treatment can be performed a s distance laser treatment I which the convex lens is held 1-2 mm above the area of the skin affected. Contact can be increased by using a contact medium such as gel or a clear hydrogel.	
LACK OF HEALING/LACK OF GRANULATION TISSUE FORMAITON	0.5-2	6 SQ cm	DAILY FOR 5 DAYS	TWICE A WEEK IF NECESSARY	LESS THAN 4	Insufficient granulating wounds may require a longer treatment	
SCARE TISSUE CONTRACTURE/EXUBERANT GRANULAITON	1.0-1.5	10-15 mm DEPENDING ON PALPATATION FINDINGS	EVERY OTHER DAY FOR THE FIRST WEEK	TWICE A WEEK	LESS THAN 4	LLLT alone is not recommended for over-granulating tissue, but should be dosed postoperatively.	
FISTULAS	2.0-4.0	1 PER FISTUALA	DAILY		4-6	When a foreign body is the cause, surgery is required. LLLT can be given postoperatively.	
EDEMA/CYSTS/BURSAE	1.0-2.0	6 SQ cm	DAILY	EDEMA/BURSAE IS 2-4 DAYS			Increase in fluid drainage is due to the biological increase of the microcirculation by the laser enrgy. This effect is seen aat an early stage of the treatment so that edema or a bursa may disappear with 2-4 days
DISORDERS OF MUSCLE/ACUTE MYOSITIS/MUSCLE CONTUSIONS/MUSCLE RUPTURES CAUSED BY INFLAMATION/TRAUMA	2.0-4.0	10-15 mm DEPENDING ON PALPATATION FINDINGS	DAILY FOR THE FIRST 4 DAYS	2-3 TIMES PER WEEK	MYOSITIS 4-6 MUSCLE CONTUSIONS 4-8	Postoperatively following the repair of muscle ruptures. For Myositis, an exacerbation of symptoms os often felt after the first 2-3 treatments. This condition is temporary, but if necessary the dosage should be decreased of treatment should be given every second day instead of every day.	Anti-inflammatory, helaing of tissues , and pain relief.
MUSCLE ATROPHY MUSCLE CONTRACTURES	4.0-7.0	1 cm	2-3 TIMES PER WEEK	6 WEEKS THEN MAINTENANCE TREATMENTS		The prognosis depends on causal circumstances which should be identified for each patient.	

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INCOMPLETE NERVE LESIONS						With regard to disorders of the nervous system, generally incomplete nerve lesions have a reasonably good prognosis. Complete lesions will require surgery and LLLT can be given postoperatively.	LLLT for neural conditions produces pain relief, an increase of action potential, and increase of microcirculation, and an increase in the regeneration of tissues.
NEURITIS/NEURALGIA NEUROMIASIS CAUSED BY INFLAMMATION/TRAUMA	1.0-2.0	5-10 mm	1-2 TIMES PER WEEK		4-10	LLLT often has an immediate pain relieving effect, and when considering ruptured nerves, LLLT is given postoperatively	Pain relief, anti-inflammatory, nerve regeneration and healing of tissue.
CONTUSIONS OF NERVES/NEURITIS CAUSED BY TRAUMA	2-4	5-10 mm	2-3 TIMES PER WEEK		1-4	Incomplete nerve lesions without tissue necrosis have a reasonable prognosis especially if treatment is commenced soon after injury.	Pain relief, promotion of healing, and stimulation of nerve function.
ATROPHY OF NERVES CAUSED BY PRESSURE	3-5	10-15 mm	2-3 TIMES PER WEEK		WEEKS OR MONTHS	Cause should be identified and corrected.	Regeneration and revascularization.
PARESIS/PARALYSIS	1-4	10-15 mm	DAILY FOR THE FIRST 4 DAYS	TWICE A WEEK	4 DAYS TO 2 WEEKS	Possibly postoperatively If effective, treatment can be continued over a long period, possibly months. The cause should be identified and corrected.	Stimulation of nerve function
PROLAPSED DISC	1-4	10-15 mm	DAILY FOR THE FIRST 4 DAYS	2-3 TIMES A WEEK	POSTOPERATIVELY 4-6 DAYS. WITH LLLT ALONE IT IS 4-14 DAYS (WHERE THERE IS IMPROVEMENT, CONTINUE THERAPY. LLLT OF THE SPINAL CORD IN THE LUMBAR REGION IS HAMPERED BY THE VERTEBRAE, THROUGH WHICH LASER LIGHT DOES NOT PENETRATE. THE SECOND MYOGENIC CHANGES IN THE ERECTOR SPINE ARE TREATED WITH 3-4 JOULES PER JOINT.	Possibly postoperative LLLT combined with other physiotherapeutic techniques. Lumbar disc lesions are treated bilaterally and symmetrically. Cervical disc lesions are treated in the midline and along the base to the skull.	Pain relief, cell regeneration, reduction of oedema, healing of tissues, and stimulation of
DISORDER OF THE BONE							
SPONDYLITIS/PERIOSTITIS	3-4	10-15 mm	2-3 TIMES PER WEEK	4-8		Possibly in conjunction with antibiotics	Anti-inflammation
SPONDYLOSIS	3-4	15 mm	TWICE PER WEEK		2-4 WEEKS	Patients may remain symptom-free for up to 6 months but a recurrence should be expected. However, the interval between treatment sessions should be increased.	Pain relief, stimulation of nerve function
FISSURES/FRACTURES TYPICALLY BY TRAUMA AND INADEQUATE NUTRITION	2-6	15 mm	DAILY FOR 4 DAYS	EVERY THIRD DAY	4-10	FISSURES - Wound dressing possible required. FRACTURES - postoperative	Healing of tissues, revascularization, pain relief. Reduces the recovery period and can be used postoperatively following osteotomies. Especially suitable in cases of non-union of fractures and pseudoarthroses (5-8 Joules)

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DISORDERS OF JOINTS							
ARTHRITIS	2-4	2-6 @15mm	2-3 TIMES PER WEEK		As required	Possibly combined with drugs and other physiotherapeutic techniques. Inflammatory symptoms may be temporarily exacerbated after the first treatment.	Anti-Inflammatory and pain relief.
ARTHROSIS	3-6	VARIABLE	2-3 TIMES PER WEEK		4-10	Possibly combined with other physiotherapy treatments. All arthrosis do not necessarily respond to LLLT. If there is no effect after 4 treatments, dosage should be increased by 25-50%. If there is still no effect, then treatment with LLLT should be discontinued. Secondary myogenic and tendinous changes are the ones being treated.	Anti-Inflammatory, pain relief, revascularizaion and regeneration of synovial fluid.
ENCHONDROSIS VERTEBRALIS	1-4	10-15 mm	DAILY FOR THE FIRST 4 DAYS, THEN 2-3 TIMES A WEEK		POSTOPERATIVELY 4-6 DAYS. WITH LLLT ALONE ALONE IT IS 4-14 DAYS (WHERE THERE IS IMPROVEMENT, CONTINUE THERAPY. LLLT OF THE SPINAL CORD IN THE LUMBAR REGION IS HAMPERED BY THE VERTEBRAE, THROUGH WHICH LASER LIGHT DOES NOT PENETRATE. THE SECOND MYOGENIC CHANGES IN THE ERCTOR SPINE ARE TREAED WITH 3-4 JOULES PER JOINT.		
STRAINS & SPRAINS	2-4	2 cm	DAILY FOR THE FIRST 4 DAYS, THEN 2-3 TIMES A WEEK		4-8	Immediate relief of pain is often seen.	Pain relief, revascularization, reduction of oedema, and promotinon of healing.
DISLOCATIONS	4-6	2-6 @15 min	DAILY FOR THE FIRST 4 DAYS, THEN 2-3 TIMES A WEEK		4-10	Postmanipulative or postoperative LLLT	Pain relief, healing of tissues revascularization and reduction of oedema.
TENDONITIS, TENDOVAGINITIS, EPONDYLITIS, AND ACHILLES TENDINITIS CAUSED BY INFLAMMATION	1-4	5-10 mm	2-3 TIMES PER WEEK		2-4 DAYS	LLLT and exercises Dosage doubled after 2-3 treatments	Pain relief, anti-inflammatory, revascularization and reduction of oedema.
TENDON STRAINS AND CONTUSIONS	2-4	10-15 mm	DAILY		4-10		Pain relief, healing tissues, revascularization, and reduction of oedema.
TENDON RUPTURES FOLLOWING SURGERY	2-4	1-2 cm	DAILY		4	Postoperative LLLT Healing phase can be reduced by 25-50%	Reduction of the postoperative recovery phase and pain relief.
BURSITIS diseases fo the skin	.05-1	6 cm	EVERY OTHER DAY				

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DISORDERS OF THE VASCULAR SYSTEM							
HEMATOMA/TISSUE INFILTRATION AFTER INJECTION	1-2	10-20 mm	DAILY		2-4	In the case of diabetes infiltration, the injection site should NOT be irradiated on the same day.	Pain relief, revascularization, reduction and resorption of oedema.
PHLEBITIS/LYMPHANGITIS/LYMPHADENITIS CAUSED BY INFLAMMATION	1-2	5-10 mm	DAILY		2-4		Anti-inflammatory, pain relief, and reduction of oedema.
POSTOPERATIVE LLLT							Pain relief, promotion of tissue healing, reduction of oedema and speeds the recovery phase following surgery. Reduces convalescence time by 25-50%. LLLT can be used after any surgical technique.
ACUTE CONDITIONS	1-3	5-15 mm DEPENDING ON AREA TO BE TREATED	DAILY				
CHRONIC CONDITIONS	1-5	5-15 mm	2 TIMES PER WEEK			The reaction pattern should be observed.	
NEUROGENIC CONDITIONS	0.5-1	5-15 mm	1-2 TIMES PER WEEK			The reaction pattern should be observed.	
OEDEMA	1	2 cm	DAILY				
WOUNDS/ULCUS CRURIS	1	2 cm	DAILY			The surface of the wound should be measured and daily treatments should be performed at first with 1-2 J per point daily. Treatment can be performed postoperatively with 2-4 J per cm. For preliminary treatment of contractures/contractile tissue, 5-10 J per point is preferably employed, with daily treatment at first followed by stretching. Later, treatment can be performed 2-3 times per week.	