

The Interdisciplinary Lower Leg Assessment Form:

The Evolution of a Clinical Assessment Tool

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and
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linical assessment is fundamental to health-care practice for both the medical and allied health-care professional. A formal evaluation process allows all aspects of the patient and their needs to be identified and addressed. Information is knowledge and, therefore, the importance of collecting relevant data for diagnostic and treatment purposes is undeniable. It is the detailed and comprehensive assessment that, along with patient goals, guides practice and directs appropriate treatment strategies. Interdisciplinary collaboration adds a balanced and holistic perspective and, consequently, much value to any patient assessment. In this article, the authors focus on the development of a formal lower leg examination tool.

A literature review was conducted to determine if any other lower leg assessment forms had been published within the last five years. The search, containing the terms "lower leg assessment form," "lower leg assessment tool" and "leg assessment tool," was performed using the databases Proquest Nursing Journals, Ovid Healthstar and Expanded Academic ASAP. No dedicated lower leg assessment form that enabled inclusive documentation from an interdisciplinary perspective was found. Therefore, the need to make such a form available was established.

The original Lower Limb Assessment Form was developed in 1997 for use within the Calgary Home Care Program, with numerous members of the Calgary Home Care's Skin and Wound Assessment and Treatment (SWAT) team instrumental in the format and content development. This original form has evolved and improved over the years and has been reviewed by Canadian wound-care leaders and adapted and adopted by the CAWC Seminar Series as part of the S2 Lower Leg Workshop. Three of the four authors have had the opportunity, as part of the SWAT team, to utilize the Lower Limb Assessment Form and have recognized the need to add modifications that capture additional information for a more comprehensive lower limb examination. The new version, titled the Interdisciplinary Lower Leg Assessment Form (on page 32), has been tailored to include more detailed information and supplemental sections for documentation related to the foot, ulcer, mobility, gait, range of motion and strength and standing posture.

The intent is to put forth the Interdisciplinary Lower Leg Assessment Form for review to stimulate discussion around its utility and encourage others to trial and critique it. All feedback is welcomed and can be sent to rgorst@shaw.ca.

references on page 50

Interdisciplinary Lower Leg Assessment Form

Name: _____ DOB: _____

PHN: _____ Phone: _____

Date of Assessment: _____

Referral Source: _____

Physician Name: _____ Phone: _____ Fax: _____

Specialist(s): _____ Phone: _____ Fax: _____

Reason for Referral:

Past Medical History:

Cardiac Hx: _____

Pulmonary Hx: _____

Renal Hx: _____

Endocrine Hx: _____

Neurological Hx: _____

Surgical/Orthopedic Hx: _____

Cancer Hx: _____

Dermatological Hx: _____

Other: _____

Medications:

_____	_____	_____
_____	_____	_____
_____	_____	_____

Treatment History:

Client Goals:

Name: _____ Date: _____

BP:		Rt. / Lt. arm	Pulse:		Weight:		
Right Leg		Circle or fill in the most appropriate response		Left Leg		Circle or fill in the most appropriate response	
A. Pain				A. Pain			
With deep palpation		"Knife like"		With deep palpation		"Knife like"	
Relieved with elevation		Intermittent claudication		Relieved with elevation		Intermittent claudication	
Ache		Pain at rest		Ache		Pain at rest	
		Increased with elevation				Increased with elevation	
		Pain at night				Pain at night	
Comments:							
B. Skin				B. Skin			
Varicosities: superficial / deep		Hairless / thin / shiny		Varicosities: superficial / deep		Hairless / thin / shiny	
Hemosiderin staining		Dependent rubor		Hemosiderin staining		Dependent rubor	
Lipodermatosclerosis		Blanching on elevation		Lipodermatosclerosis		Blanching on elevation	
Acute lipodermatosclerosis		Feet cool / cold		Acute lipodermatosclerosis		Feet cool / cold	
Stasis dermatitis		Toes cool / cold		Stasis dermatitis		Toes cool / cold	
Atrophie blanche		Capillary refill time (__sec)		Atrophie blanche		Capillary refill time (__sec)	
Cellulitis		N < 5 sec.¹		Cellulitis		N < 5 sec.¹	
Elephantiasis				Elephantiasis			
Comments:				Comments:			
C. Foot		Pressure Areas:		C. Foot		Pressure Areas:	
Deformities: Hammer toes /				Deformities: Hammer toes /			
claw toes / dropped MTH /				claw toes / dropped MTH /			
Hallux valgus / dropped arch				Hallux valgus / dropped arch			
Nails: thick / yellow / brittle /				Nails: thick / yellow / brittle /			
fungus / abnorm. growth				fungus / abnorm. growth			
Callouses / Corns				Callouses / Corns			
Orthotics: Yes No				Orthotics: Yes No			
Footwear appropriate: Yes No				Footwear appropriate: Yes No			
Comments:							
D. Sensation (5.07 Monofilament) Score: _____ / 10				D. Sensation (5.07 Monofilament) Score: _____ / 10			
Digits: 1 st _____ 3 rd _____ 5 th _____				Digits: 1 st _____ 3 rd _____ 5 th _____			
MTH: 1 st _____ 3 rd _____ 5 th _____				MTH: 1 st _____ 3 rd _____ 5 th _____			
Medial: _____ Lateral: _____ Heel: _____ Dorsum: _____				Medial: _____ Lateral: _____ Heel: _____ Dorsum: _____			
Neuropathy (described below)				Neuropathy (described below)			
Sensory: loss of protective sensation (LOPS)				Sensory: loss of protective sensation (LOPS)			
numbness / burning / tingling / crawling				numbness / burning / tingling / crawling			
Autonomic: dry / cracking / fissures				Autonomic: dry / cracking / fissures			
Motor: change in soft tissue distribution /				Motor: change in soft tissue distribution /			
Charcot / acute Charcot				Charcot / acute Charcot			
Lower LOPS score = ↑ risk				Lower LOPS score = ↑ risk			
Comments:							

References

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Name: _____ Date: _____

Right Leg Circle or fill in the most appropriate response	Left Leg Circle or fill in the most appropriate response																																																								
E. Ulcer Hx of previous ulcer Yes No Yr(s): _____ Cause(s) of previous ulcer: _____ Ulcer present: Yes No Location(s): _____ Cause of current ulcer: _____ Date of onset: _____ Skin stretched with signs of imminent breakdown: Yes No Serous weeping from leg without signs of ulceration: Yes No	E. Ulcer Hx of previous ulcer Yes No Yr(s): _____ Cause(s) of previous ulcer: _____ Ulcer present: Yes No Location(s): _____ Cause of current ulcer: _____ Date of onset: _____ Skin stretched with signs of imminent breakdown: Yes No Serous weeping from leg without signs of ulceration: Yes No																																																								
Comments: _____																																																									
F. Measurements Date: _____ <table style="width: 100%; border-collapse: collapse;"> <tr><td style="border-bottom: 1px solid black;">Midfoot _____ cm</td><td style="border-bottom: 1px solid black; width: 50px;"></td><td style="border-bottom: 1px solid black; width: 50px;"></td><td style="border-bottom: 1px solid black; width: 50px;"></td></tr> <tr><td style="border-bottom: 1px solid black;">Heel → 10 cm</td><td style="border-bottom: 1px solid black;"></td><td style="border-bottom: 1px solid black;"></td><td style="border-bottom: 1px solid black;"></td></tr> <tr><td style="border-bottom: 1px solid black;">Heel → 20 cm</td><td style="border-bottom: 1px solid black;"></td><td style="border-bottom: 1px solid black;"></td><td style="border-bottom: 1px solid black;"></td></tr> <tr><td style="border-bottom: 1px solid black;">Heel → 30 cm</td><td style="border-bottom: 1px solid black;"></td><td style="border-bottom: 1px solid black;"></td><td style="border-bottom: 1px solid black;"></td></tr> <tr><td style="border-bottom: 1px solid black;">Heel → _____ cm</td><td style="border-bottom: 1px solid black;"></td><td style="border-bottom: 1px solid black;"></td><td style="border-bottom: 1px solid black;"></td></tr> <tr><td style="border-bottom: 1px solid black;">Heel → _____ cm</td><td style="border-bottom: 1px solid black;"></td><td style="border-bottom: 1px solid black;"></td><td style="border-bottom: 1px solid black;"></td></tr> <tr><td style="border-bottom: 1px solid black;">Weight</td><td style="border-bottom: 1px solid black;"></td><td style="border-bottom: 1px solid black;"></td><td style="border-bottom: 1px solid black;"></td></tr> </table>	Midfoot _____ cm				Heel → 10 cm				Heel → 20 cm				Heel → 30 cm				Heel → _____ cm				Heel → _____ cm				Weight				F. Measurements Date: _____ <table style="width: 100%; border-collapse: collapse;"> <tr><td style="border-bottom: 1px solid black;">Midfoot _____ cm</td><td style="border-bottom: 1px solid black; width: 50px;"></td><td style="border-bottom: 1px solid black; width: 50px;"></td><td style="border-bottom: 1px solid black; width: 50px;"></td></tr> <tr><td style="border-bottom: 1px solid black;">Heel → 10 cm</td><td style="border-bottom: 1px solid black;"></td><td style="border-bottom: 1px solid black;"></td><td style="border-bottom: 1px solid black;"></td></tr> <tr><td style="border-bottom: 1px solid black;">Heel → 20 cm</td><td style="border-bottom: 1px solid black;"></td><td style="border-bottom: 1px solid black;"></td><td style="border-bottom: 1px solid black;"></td></tr> <tr><td style="border-bottom: 1px solid black;">Heel → 30 cm</td><td style="border-bottom: 1px solid black;"></td><td style="border-bottom: 1px solid black;"></td><td style="border-bottom: 1px solid black;"></td></tr> <tr><td style="border-bottom: 1px solid black;">Heel → _____ cm</td><td style="border-bottom: 1px solid black;"></td><td style="border-bottom: 1px solid black;"></td><td style="border-bottom: 1px solid black;"></td></tr> <tr><td style="border-bottom: 1px solid black;">Heel → _____ cm</td><td style="border-bottom: 1px solid black;"></td><td style="border-bottom: 1px solid black;"></td><td style="border-bottom: 1px solid black;"></td></tr> <tr><td style="border-bottom: 1px solid black;">Weight</td><td style="border-bottom: 1px solid black;"></td><td style="border-bottom: 1px solid black;"></td><td style="border-bottom: 1px solid black;"></td></tr> </table>	Midfoot _____ cm				Heel → 10 cm				Heel → 20 cm				Heel → 30 cm				Heel → _____ cm				Heel → _____ cm				Weight			
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Comments: _____																																																									
G. Edema ↓ in AM asymmetrical with contra-lateral limb: Yes No Date of onset: _____ Location: Toes Foot B/K A/K Sacral _____ Description: pitting 1+ 2+ 3+ 4+ non-pitting / brawny induration +ive Stemmer's sign	G. Edema ↓ in AM asymmetrical with contra-lateral limb: Yes No Date of onset: _____ Location: Toes Foot B/K A/K Sacral _____ Description: pitting 1+ 2+ 3+ 4+ non-pitting / brawny induration +ive Stemmer's sign																																																								
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H. Circulation Palpation Dorsalis Pedis Pulse: Present / Diminished / Absent Dorsalis Pedis: _____ Posterior Tibial: _____ Interdigital: _____ Toe: _____ Brachial: _____ (M - Monophasic, B- Biphasic, T- Triphasic) ABPI: _____ TBPI: _____ ABPI N = 0.8 – 1.2² TBPI N = 0.55 mmHg²	H. Circulation Palpation Dorsalis Pedis Pulse: Present / Diminished / Absent Dorsalis Pedis: _____ Posterior Tibial: _____ Interdigital: _____ Toe: _____ Brachial: _____ (M - Monophasic, B- Biphasic, T- Triphasic) ABPI: _____ TBPI: _____ ABPI N = 0.8 – 1.2² TBPI N = 0.55 mmHg²																																																								
Comments: _____																																																									

Name: _____ Date: _____

Right Leg		Circle or fill in the most appropriate response		Left Leg		Circle or fill in the most appropriate response	
Mobility		ROM / Strength		Gait Pattern		Standing Posture	
Cane	W/C	DF	↓ ROM ↓ Strength			Foot Supination	Rt. Lt.
2 W/W	Power W/C	PF	↓ ROM ↓ Strength			Foot Pronation	Rt. Lt.
Standard Walker	4 W/W	1 st Toe	↓ ROM			Arches	
_____		_____		_____		_____	
Transfers: _____		_____		_____		_____	
_____		Able to ↑ ROM: Yes No		_____		_____	
L/E dressing: Independent /		Able to ↑ Strength: Yes No		_____		_____	
Independent with aids /		_____		_____		_____	
Requires assistance		_____		_____		_____	

Adapted from Calgary Home Care and the CAWC Seminar Series.

Name: _____ Date: _____

Summary of Results:

Recommendations:

Name: _____ Signature: _____ Date: _____

Interdisciplinary Lower Leg Assessment Form

Glossary of Terms

Acute lipodermatosclerosis	Presents much like cellulites with a red flare of the skin, and tender or painful medial aspect of the leg. It is also thought to be the acute counterpart of chronic lipodermatosclerosis and likely a result of underlying venous disease. ⁵
Atrophie blanche	"Small ivory-white depressed plaques on the ankle and/or foot; stellate and irregular, coalescing; stippled pigmentation; hemosiderin-pigmented border, usually within stasis dermatitis. Often following trauma." ¹⁵
Brawny induration	Pathological hardening and thickening of tissues, usually due to inflammation. ¹³
Plantar callouses	Thickening of the skin over the bottom of the foot or on the outer edge of a toe or the heel in response to friction or pressure against the skin.
Capillary refill time	The length of time taken for normal skin colour to reappear after pressure is applied and the area blanches. In a normal limb, this is less than five seconds; in a limb with peripheral arterial disease, the time is longer. ¹⁴
Cellulitis	A spreading bacterial infection of the skin, usually caused by streptococcal or staphylococcal infections, that results in severe inflammation with erythema, warmth, and localized edema. ¹³
Claw toes	Extensor contracture of toes, which increases pressure of the metatarsal heads, causing reduction of weight-bearing through the toes. This can lead to anterior displacement of the fat pad cushioning over the metatarsal heads. Claw toes are either congenital, and associated with the pes cavus deformity, or acquired. Acquired claw toes result from an imbalance between motor units usually caused by a motor neuropathy; the most common cause is diabetic peripheral motor neuropathy. Claw toes are often the first sign of Charcot-Marie-Tooth disease. ¹¹
Corns	A horny induration and thickening of the skin that may be hard or soft according to location. Pressure, friction, or both cause this condition. Hard corns on exposed surfaces have a horny, conical core extending down into the derma, causing pain and irritation. Soft corns that occur between the toes are kept soft by moisture and maceration. ¹³
Dependent rubor	Tissues of the lower extremities turn red/blue as the blood rushes back into ischemic tissue. Peripheral vessel damage so severe that vessels are no longer able to constrict but remain permanently dilated. ¹⁶
Elephantiasis	Profound edema with tissue on palpation that is brawny and does not recede with elevation. Extensive fibrosclerosis and proliferation of adipose tissue. Tissue may have a brownish-grey colour. Term used to describe Stage III lymphedema: lymphedema elephantiasis. ³
Hallux valgus	Lateral deviation of the great (1 st) toe. The great toe moves toward the second toe, causing a progressive deformity at the base of the great toe. This deformity is called a bunion. ¹¹ In some cases the adjacent toes begin to buckle or become hammer toes.
Hammer toes	Contraction of the proximal interphalangeal joint based on ligaments and tendons that have tightened to cause the toe's joints to curl downward. May result in a callous over the dorsal aspect of the joint. ¹¹
Hemosiderin staining	Venous hypertension causes abnormal pressures to be exerted against capillary walls, which over time allows red blood cells and proteins to seep out into surrounding tissues and hemoglobin to break down. This iron-containing pigment from the red blood cells eventually stains the skin, resulting in a brown discoloration known as hemosiderin staining. ⁸
Intermittent claudication	Characterized by pain, limping and lameness caused by insufficient blood flow to the limbs during exercise. ⁴
Lipodermatosclerosis	An extension of the venous hypertension process, whereby the body attempts to normalize the leakage by forming fibrinogen "cuffs" around distended capillaries. ⁸ The tissue in the gaiter area becomes taut and hardens, presenting as an inverted champagne bottle.
Motor neuropathy	Damage to the motor nerves causing wasting of the supportive muscle of the foot leading to misalignment and development of deformities.
Pitting edema	Edema in which external pressure leaves a persistent depression in the tissues; it occurs because the pressure pushes the excess fluid out of the intercellular spaces in the tissue. ⁶
Pronation	Excessive inward rolling of the foot. Pressure is placed on the inside of the foot.
Sensory neuropathy	Peripheral nerve dysfunction that can lead to a loss of protective sensation.
Stasis dermatitis	Direct result of venous insufficiency, leading to increased permeability of dermal capillaries and a subsequent inflammatory reaction. These skin changes that occur are often an early sign of impending venous-related problems. ²
Stemmer's sign (+ive)	Inability to tent the edematous skin on the dorsal surface of the toes (when pinched), which suggests lymphedema. ^{7,9} The absence does not exclude presence of lymphedema.
Supination	Rolling motion of the feet onto the outer edges. Typical of high-arched, stiff feet.
Varicosities: superficial / deep	Varicosities are dilated superficial veins and varicose veins that become progressively larger and increasingly painful. ¹

The Interdisciplinary Lower Leg Assessment Form

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