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**LANA CERTIFIED
LYMPHEDEMA THERAPIST®
Candidate Information Brochure**



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Introduction

The Lymphology Association of North America (LANA) is a non-profit corporation composed of healthcare professionals, including physicians, nurses, massage therapists, physical therapists, and occupational therapists experienced in the field of Lymphology. LANA is committed to protecting the public, practitioners and patients through the accomplishment of the following primary goals:

- ❑ Develop, establish and maintain standards of qualification for persons who practice as Lymphedema Therapists;
- ❑ Develop, establish and maintain appropriate certification examinations to ensure minimum levels of acceptable competence fundamental to the proper treatment of lymphedema; and
- ❑ Develop, establish and maintain standards of knowledge, skill and programs to promote continuing competence among registrants.

This brochure is intended to provide candidates for the LANA Certified Lymphedema Therapist (CLT-LANA®) examination with the appropriate information and sources to assist in their preparation for the test. It is NOT intended to be used as a study tool for the examination. The purpose of the brochure is to provide the candidate with information on eligibility criteria, the application process, the content areas to be tested, the format of the test, the scoring process and other useful information. LANA encourages candidates to read the entire brochure in preparation for the examination.

The certification examination described in this brochure is one of the mechanisms employed by LANA to meet its objectives of offering certification opportunities to practicing therapists. To this end, LANA administers the examination process by: defining and updating bodies of knowledge; conducting field surveys; analysing candidate performance; evaluating subject areas and item validity; developing testing questions; establishing levels of minimum acceptable competence; implementing grading and rating procedures; reviewing education and practice requirements; and identifying public health, safety and welfare issues.

With this in mind, extensive research has gone into defining the important tasks conducted by therapists, developing and validating the examination specifications; and developing and participating in pre-testing, analysis and standard setting. Professional test developers oversee the focus groups charged with developmental tasks in accordance with test specifications and also conduct various ongoing statistical analyses designed to measure the validity and reliability of committee outputs. The measurement methodologies employed in the examination development and scoring processes conform to all relevant standards that govern such matters. The most important standards are promulgated by the Council on Licensure, Enforcement and Regulation (CLEAR), the National Organization for Competency Assurance (NOCA), and a working group representing the American Educational Research Association, American Psychological Association and the National Council for Measurement in Education (The AERA/APA/NCME *Joint Technical Standards*)

CANDIDATE MUST:

- ❑ Possess a current and unrestricted U.S. state license or registration or equivalent Canadian provincial or territorial license or registration as a RN, OT, COTA, PT, PTA, SLP, MD, DO, DC, MT. or ATC. Massage Therapists who do not hold a current unrestricted state license or registration (or Canadian equivalent) must be certified by the National Certification Board for Therapeutic Massage and Bodywork **OR** provide documented evidence of having successfully completed a curriculum containing a minimum of 500 hours of soft tissue massage, from an accredited institution.
- ❑ Provide documented evidence of successful completion of 135 classroom hours of Complete Decongestive Therapy (CDT) course work (consisting of 1/3 theoretical instruction and 2/3 practical lab work) from no more than 4 consecutive or cumulative courses from one training program.
- ❑ Provide evidence of one year hands-on **experience** using CDT in direct patient care **following** the completion of the CDT coursework. Proof of experience must be documented in a written resume (curriculum vitae), which should include a written summary of professional education and work experience to be submitted with the application.
- ❑ Basic Science Requirement: (*)
Provide proof of satisfactory completion of 12 credit hours (i.e. four - three-credit courses or three - four-credit courses which equal 192 clock hours) of college level human anatomy, physiology, and/or pathology from an accredited college or university. Copy of transcript must be submitted with application form. (Note: a 3-credit course meets 3 hours per week for 16 weeks for a total of 48 clock hours).

*Note: The science requirement is automatically met by those who provide current unrestricted state licenses or registrations from the following disciplines: RN, OT, COTA, PT, PTA, MD, DO, and DC. These individuals should **not** submit transcripts.

Examination Registration

Registering for the examination is a two-step process:

1. *Submit Examination Application Form.* The candidate must first complete and submit the application form found on the last page of this brochure to the following address:

LANA
P.O. Box 466
Wilmette, IL 60091, USA

Please note that your application will not be processed unless you include the following:

- Your resume (curriculum vitae) which includes professional work experience
- a copy of your professional diploma
- a copy of your current professional license / or registration.
- a copy of CDT course certificate(s) specifying the number of contact hours completed. Do **NOT** send copies of certificates for any activity that does not directly add to CDT course certification hours.
- a college transcript with proof of successful completion of science requirements for MT and ATC ONLY
- the signed/notarized affidavit.

Upon reviewing the application form for completeness and verifying the candidate's eligibility to sit for the test, the candidate will receive, via First Class U.S. Mail, an authorization letter to take the test.

Your application will be returned to you unprocessed via U.S. First Class Mail with a written explanation of the problem area(s) if it is deficient. Such deficiencies include:

- The application form is not received in hard copy with an original signature.
- One or more background questions have not been answered by the applicant.
- Required home and/or business contact information fields are left blank.
- The affidavit is not signed in ink by the applicant and notarized.
- The information provided is illegible and cannot be accurately transcribed.
- Your CDT training does not match the eligibility description above.

Note: Eligibility must be documented and submitted with the application by copies of the credentials, (i.e. state license), resume (c.v., relevant work history), and certificate(s) from lymphedema training course(s) completed.

Please do not send your application via Fed-Ex or UPS as they are unable to deliver to a Post Office Box and your application will be delayed or returned. You can, however, send your application via USPS Priority Mail if you prefer. We are sorry for any inconvenience that this may cause.

2. *Make an Appointment to Take the Examination.* When you receive your authorization letter from Schroeder Measurement Technologies, Inc., it will contain instructions for scheduling an examination appointment online, along with a User ID and Password to access the online registration system. If you do not have access to a computer, you may contact Schroeder Measurement Technologies, Inc. directly to schedule your examination toll-free at (800) 556-0484, Option 1. Appointments are available weekdays and some evenings and weekends, depending upon the specific testing center you request.

Authorization to take the examination is valid for twelve (12) months from the date of your authorization letter. After twelve (12) months, reapplying for the examination is required, with a copy of your current professional license. Failure to submit a current professional license will result in withholding of your LANA certification. **You will also be required to pay a \$315.00 (U.S.) examination fee at this time.** Once you have completed the online scheduling process, you will be prompted to print your admission letter to bring with you to the exam center.

If you wish to cancel or reschedule your appointment, you must call the same toll-free number and do so **at least 5 weekdays prior to your appointment time.** Failure to do so will forfeit your examination fee. If you fail to attend your examination (i.e. no show) for any reason, or if you cannot be admitted, your examination and registration fee will be forfeited. To be rescheduled you must make another appointment and pay another \$315.00 (U.S.) fee. All examination fees are non-refundable.

Examination Administration

Please arrive at the test center at the time noted on your admission document. Please bring your admission letter to the examination. In order to be admitted, photo identification is also required. **You will not be admitted without proper identification.** The only acceptable forms of identification are: driver's license, government-issued identification card, or a passport. No other forms of identification will be accepted. **No candidate will be admitted without the required documents. This is true for both original and RETAKE candidates. No walk-in candidates will be admitted.**

If your name has changed since you received your examination notice, you must bring documentation showing your previous name and current name (i.e., divorce decree, court order, marriage license, or notarized affidavit).

After establishing positive identification, you will be escorted to a computer station to begin. Prior to beginning of the test, you will fill out a series of screens that will gather basic information about yourself (name, address, SSN, etc.). The system then compares this information to the registration record as a second quality assurance measure. After these screens, a practice test is presented, which trains you on how to use the computer mouse or keyboard to take the test. Additionally, the proctor is trained to assist you if you have any questions about how to use the system. The system is extremely user friendly and can be completely operated with a few keys or a mouse. After the demonstration test, which is untimed, you will be asked if you wish to begin the test. If yes, the clock begins and the first question appears. The screen will continuously show how much time has elapsed. You will have the option to "tag" questions for review later. At any time, you can list the questions that have been tagged and review them, change the answers, etc. The test ends when 2 hours has elapsed (after a 10 minute and 5 minute warning), or when you ask the computer to end the test. The system will then ask you to fill out a short questionnaire about your experience at the test center (the proctor's behavior, level of service, ease of use, etc.). Your scores will be available approximately 60 seconds after you complete the test.

Examination Rules

1. Dress is "business casual" (neat...but certainly comfortable).
2. Failure to follow test center instructions will result in your application being voided and forfeiture of your application fee. Conduct that results in a violation of security or disrupts the administration of the examination could result in dismissal from the examination. In addition, your examination will be considered void and will not be scored. Examples of misconduct include, but

are not limited to, the following: writing in the testing room, talking with other candidates anytime during the examination period, bringing in a recording device, etc.

3. You must not discuss or possess reference materials or any other examination information at any time during the **entire** examination period. You are particularly cautioned not to do so after you have completed the exam and checked out of the test room, as other candidates in the areas might be taking a break and still not have completed the examination. You may not attend the examination only to review or audit test materials. You may not copy any portion of the examination for any reason. No unauthorized persons will be admitted into the testing area. Please be further advised that all examination content is strictly confidential. **At no other time, before, during, or after the examination, may you communicate orally, electronically or in writing with any person or entity about the content of the examination or individual examination questions.**

4. Candidates writing on anything will be in violation of the security policies above. Reference materials are not allowed in the testing room. Candidates are asked to bring as few personal and other items as possible to the testing area.

5. While the site climate is controlled to the extent possible, be prepared for either warm or cool temperatures at the testing center to reduce the likelihood that you become uncomfortable. Cellular phones and beepers are prohibited in the testing area. The use of headphones inside the testing area is prohibited. Electrical outlets will not be available for any reason. No smoking or the use of tobacco will be allowed inside the testing area. Food and drinks are not allowed in the testing room. You must vacate the testing area after you have completed the examination. Due to limited parking facilities at some sites, please allow ample time to park and reach the testing area

Examination Scoring

The examination consists of 115 multiple choice questions with four (4) choices. Fifteen of these questions are included for research purposes only.

The research questions are not identified; therefore, answer all questions to the best of your ability. Examination results will be based only on the 100 scored questions on the examination. There are several versions of the examination. It is important that each candidate have an equal opportunity to pass the examination, no matter which version is administered. Expert lymphedema practitioners have provided input as to the difficulty level of all questions used in the examinations. That information is used to develop examination forms that have comparable difficulty levels. When there are differences in the examination difficulty, a mathematical procedure is used to make the scores equal. Because the number of questions required to pass the examination may be different for each version, the scores are converted onto a reporting scale to ensure a common standard. The passing grade required is a scale score of 700 out of a possible 1000 points on the grading scale.

Examination Results

Examination results will be provided immediately after your examination at the site. Should you lose your results, they WILL NOT be released over the phone because positive identification cannot be established. In order to receive a duplicate set of results, your address must be current and any change must be submitted in writing. Passing candidates will be given pass-status information only, not numeric scores. Failing candidates will be provided with an overall numeric score and diagnostic information of his or her strong and weak areas. Consistent with testing industry standards, passing candidates will receive their certification documents from LANA approximately 8 weeks following the successful completion of the examination. Their name, city, and state will be listed on the LANA website unless they notify the

LANA website **by e-mail** that they **do not** want to be listed. If LANA certificates are lost or require replacement, there is a \$25.00 replacement fee.

Examination Retake Policies

It is the policy of LANA that any candidate who fails to achieve a passing score on the examination may apply to retake the examination after six (6) months of the date of the first examination. The candidate must reapply to LANA to take the examination after six months of the date of the failed examination and must pay the \$315.00 (U.S.) application fee again.

Candidates are permitted to take the examination 3 times in a twenty-four month period to achieve a passing score. If a candidate fails to achieve a passing score three times in a twenty-four month period, they must wait an additional twelve months before becoming eligible to apply to take the examination again. LANA strongly recommends that the candidate use this time to complete additional training in CDT.

Special Accommodations and Language Policies

LANA and its testing service, Schroeder Measurement Technologies, Inc., provide special accommodations in accordance with the Americans with Disabilities Act of 1991 (ADA). If a disability prevents you from taking the examination under normal conditions, you may request special accommodations. You must submit a written request along with your application form for special accommodations that explains the name of the disability (i.e. the diagnosis), the type of accommodation arrangements

Please note that for reasons related to examination standardization, security, and cost, the CLT-LANA[®] examination is only offered in English at this time. If English is not your primary language, LANA recommends (but does not require) that candidates consider sitting for the TOEFL (Test of English as a Foreign Language) examination prior to sitting for the CLT-LANA[®] examination. Your scores on the TOEFL[®] will provide a useful gauge for you to understand if reading and comprehending English will provide problems for you on the CLT-LANA[®] examination. The TOEFL[®] examination is offered at multiple locations both domestically and internationally throughout the year at Sylvan Learning Centers[®]. More information is available on the Sylvan web site.

Recertification Policy

LANA Certification expires after six years. The LANA Board has developed a recertification policy, which is available for viewing on the LANA website. The goal of recertification is to assure continued professional competence in the management of lymphedema. Varied tracks to recertification will include continuing education and the option of taking the examination.

CLT-LANA[®] Credential

CLT-LANA[®] Credential - candidates who achieve a passing score on the certification examination may use the credentials CLT-LANA[®] after their names.

Procedure: The CLT-LANA[®] certification mark may be used only as long the certification is valid, after which time certification may be renewed. Certification is a non-transferable, revocable, limited

license to use the certification designation CLT-LANA[®], subject to compliance with LANA rules, as may be revised from time to time.

Revocation of Certification

The following represent reasons for which LANA Certification may be revoked:

- Falsification of the application
- Falsification of any information requested by LANA
- Misrepresentation of the LANA credential
- Lack of current professional license
- Cheating during the certification examination
- Assisting others to cheat during the certification examination
- Unauthorized possession of LANA examinations or other confidential materials
- Criminal convictions
- Gross repeated malpractice

Upon being notified in writing of the belief that one of the above conditions exists, LANA shall write to the therapist cited (within 10 days), indicating that this information has been received. The review and appeals process may be instituted.

Once certification has been revoked, the individual therapist's state board of licensing shall be notified of the revocation, and the individual therapist shall be barred from taking any future LANA examination.

Examination Specifications

The examination contains 115 test questions and you will be allowed 2 hours to complete the examination.

Below is a detailed outline of the content areas and sub-areas covered on the test:

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CLT-LANA DETAILED CONTENT OUTLINE

1. ANATOMY

- A. Circulatory system (i.e., venous and arterial)
- B. Lymph System
 - 1. Embryology
 - 2. Lymphangiogenesis
 - 3. Prelymphatic channels
 - 4. Initial lymph vessels (capillaries)
 - 5. Precollector lymph vessels
 - 6. Collector lymph vessels
 - 7. Lymphatic trunks and ducts
 - 8. Lymph nodes
 - 9. Lymphovenous anastomoses
 - 10. Watersheds and collateral anastomoses
 - 11. Drainage pathways
 - a. Head and neck

- b. Upper extremities
- c. Lower extremities
- d. Trunk
- e. Genital

C. Integumentary system

D. Interstitium

2. PHYSIOLOGY

A. Circulation (i.e., venous and arterial)

B. Microcirculation

- 1. Starling's hypothesis and equilibrium
- 2. Safety factors that normally prevent edema

C. Lymph formation and transport

3. LYMPH VASCULAR DISORDERS

(i.e., primary and secondary lymphedema)

A. Etiology

B. Classifications

C. Pathology and pathophysiology

D. Symptoms and signs

4. OTHER DISORDERS (i.e., lipedema, lipolymphedema, phlebolympedema, chronic venous insufficiency, myxedema)

A. Etiology

B. Pathology and pathophysiology

C. Symptoms and signs

5. PATIENT EVALUATION

A. Patient history

- 1. Edema and prior edema treatment
- 2. Family
- 3. Other medical history
- 4. Medications/supplements/diets
- 5. Infections
- 6. Symptoms
- 7. Functional status
(e.g., Activities of Daily Living (ADL))
- 8. Psychosocial

B. Physical Examination

- 1. Weight and height
- 2. Appearance of involved limb(s) and adjacent areas
- 3. Clinical signs

4. Peripheral pulses
 5. Range of Motion (ROM), muscle strength, posture and gait
 6. Sensation
 7. Measurements (e.g., circumferential, Volumetric, perometry)
- C. Additional considerations
1. Medical conditions that **exclude** treatment (e.g., acute congestive heart failure, untreated cellulitis, acute deep venous thrombosis)
 2. Medical conditions that **may** limit treatment (e.g., compensated congestive heart failure, peripheral neuropathy, arterial insufficiency, cognitive impairment)
- D. Diagnostic tests (e.g., lymphoscintigraphy, lymphography, Computerized Tomography (CT), Magnetic Resonance Imaging (MRI), venous Doppler examination, and Ankle Brachial Index (ABI))
1. Purpose
 2. Testing procedures
 3. Clinical implications
- E.. Potential complications of lymphedema (e.g., angiosarcoma, cellulitis, anasarca, lymphoceles)

6. LYMPHEDEMA MANAGEMENT

- A. Manual lymphatic drainage
1. Principles
 2. Indications and contraindications
- B. Compression bandaging
1. Principles
 2. Materials
 3. Indications and contraindications
- C. Compression garments
1. Grades of compression
 2. Materials
 3. Fitting principles and problems
 4. Indications and contraindications
- D. Compression devices and other materials
- E. Pneumatic pumps
- F. Exercises
1. Principles and methods
 2. Indications and contraindications
- G. Skin care and wound care

- H. Patient education
 - 1. Precautions and risk reduction
 - 2. Symptoms and signs of infection
 - 3. Skin Care
 - 4. Self-assessment
 - 5. Lymphatic drainage
 - 6. Compression bandaging
 - 7. Compression garments (i.e., wear and care)
 - 8. Other compression devices (i.e., wear and care)
 - 9. Exercise
 - 10. Nutrition
 - 11. Activities of Daily Living (ADL) modifications

- I. Quality of Life
 - 1. Psychosocial
 - 2. Compliance issues
 - 3. Supports groups and community resources

- J. Palliative Care

Suggested Reference Sources

Acronyms

Candidates should note that they will be required to understand the following acronyms when they sit for the examination:

RSD - Reflex Sympathetic Dystrophy
CRPSI - Complex Regional Pain Syndrome
CDT - Complete Decongestive Therapy
MLD - Manual Lymph Drainage
CHF - Congestive Heart Failure
CLM -Comprehensive Lymphedema Management

About Reference Sources

The listed references are examples of articles and books that may be of use for preparing for the LANA examination. Candidates may wish to review the listed references, along with training materials received in their required Lymphedema course work, to prepare for the examination. The articles and books serve as resources for studying for this examination. Use of the references does not guarantee successful completion of the LANA examination. Review references frequently, as articles and books are updated.

Journal Articles

Boris, M., Weindorf, S., Lasinski, B.: "The Risk of Genital Edema After External Pump Compression for Lower Limb Lymphedema". *Lymphology* 31:15-20, 1998.

Boris, M., Weindorf, S., Lasinski, B.: "Persistence of Lymphedema Reduction after Complex Therapy". *Oncology*. 11 (1): 99-109, 1997.

Casley-Smith, J.R.: "Alterations of Untreated Lymphedema and its Grades Over Time". *Lymphology*, 28 (4); 174-185, 1995.

Consensus Document of the International Society of Lymphology Executive Committee. *Lymphology* 36 No 2: 84-91. 2003.

"Diagnosis and Treatment of Peripheral Lymphedema". Földi, E., Földi, M., Clodius, L.: *The Lymphoedema Chaos: Lancet. Annals of Plastic Surgery*. 22(6), 505-15. 1989.

Ko, D.S.C., Lerner, R., Klose, G.: "Effective Treatment of Lymphedema of the Extremities". *Arch. Surg.* 133-452-457.1998.

Leduc, A., Caplan, I., Leduc, O.: "Lymphatic Drainage of the Upper Limb: Substitution Lymphatic Pathways". *European Journal of Lymphology*. 4: 11-18. 1993.

Petrek, J., Pressman, P., Smith, R., Lymphedema. Results from a Workshop on Breast Cancer Treatment-Related Lymphedema and Lymphedema Resource Guide, *Cancer*, V83, pp 2775-2890, 1998

Rudkin, G., Miller, T.: "Lipedema: A Clinical Entity Distinct from Lymphedema". *Plastic and Reconstructive Surgery* 91(6), November, 1994.

Woods, M., Tobin, M.J., Mortimer, P.: "The Psychosocial Morbidity of Breast Cancer Patients with Lymphedema". *Cancer Nursing* 18 (6): 467-71, 1995.

Books

Browse N., Burnand, K., & Mortimer P. *Diseases of the Lymphatics*. Arnold, Great Britain. 2003. ISBN: 0 340 76203 9.

Casley-Smith, J.R., Casley-Smith, J.R.: Modern Treatment for Lymphoedema. Lymphoedema Association of Australia, 1997. ISBN 0-646-316648

Földi, M., Földi, E., Kubik, S: Textbook on Lymphology Urban & Fischer, 2003. ISBN 0-9729535-0-7

Guyton, A.C., Hall, T.E.: Textbook of Medical Physiology. Chapters 16 and 25. W.B. Saunders, 2000. ISBN 0-7216-8677X.

Kasseroller, R.: Compendium of Dr. Vodder's Manual Lymph Drainage. Haug Verlage, 1998. ISBN 3-7760-1729-5.

Kelly, D.: A Primer on Lymphedema. Prentice Hall, 2001. ISBN 00-13-022410-3.

Weissleder, H., Schuchhardt, C.: Lymphedema - Diagnosis and Therapy. Kagerer Kommunikation, 1997, and Viavital Publishers, 2001. ISBN 3-934371-24-8.

Zuther, J. Lymphedema Management Thieme Medical, New York. 2005. ISBN:1 58890 284 6.

Sample Examination Items

The following sample examination questions are similar in style and format to those which appear on the examination:

1. Lipedema **PRIMARILY** affects
 - (A) women.
 - (B) men.
 - (C) children under six.
 - (D) elderly of both sexes.
2. The lymph collectors **MOST** resemble
 - (A) cork-screw.
 - (B) garden hose.
 - (C) silk-like thread.
 - (D) string of pearls.
3. Six months after completing a course of CDT, a patient with secondary lymphedema following axillary lymph node dissection presents with a 20 lb. weight loss and a rapid 30% increase in the girth of her affected limb. Which of the following is the **MOST** likely explanation?
 - (A) Congestive heart failure
 - (B) Cancer recurrence
 - (C) Renal failure
 - (D) Hypoproteinemia
4. Lymphostatic edema is
 - (A) highly alkaline.
 - (B) highly acidic.
 - (C) protein-rich.
 - (D) protein-poor.
5. Lymphedema caused by malformations (dysplasia) of the lymphatic system is known as
 - (A) primary lymphedema.
 - (B) lipo-lymphedema.
 - (C) secondary lymphedema.
 - (D) phlebolympedema.
6. When evaluating a lymphedema patient, it is important to measure the unaffected as well as the affected extremity because

- (A) the patient needs to know these measurements to get insurance reimbursement.
 - (B) it will help to monitor weight gain and joint mobility measurements.
 - (C) measurements will show whether the treatment has benefited the patient.
 - (D) measurements will determine the number of bandages needed to reduce a limb.
7. A lymphedema patient's history reveals recurrent episodes of cellulitis in the lymphedematous extremity. Upon examination, the involved extremity was warm and red. It is important to start CDT
- (A) as soon as possible.
 - (B) only after antibiotics have been initiated.
 - (C) after a vigorous exercise program has been initiated.
 - (D) only after vigorous sequential pumping has been initiated.
8. Lymphedema resulting from breast cancer surgery is classified as
- (A) dynamic lymphedema.
 - (B) primary lymphedema.
 - (C) secondary lymphedema.
 - (D) idiopathic lymphedema.

Answers

- | | |
|------|------|
| 1. A | 5. A |
| 2. D | 6. C |
| 3. B | 7. B |
| 4. C | 8. C |