



LANA® CERTIFIED LYMPHEDEMA THERAPIST®

Table of Contents

Candidate Information Booklet (CIB)

Introduction.....	1
Candidate Eligibility Requirements	3
Exam Application	5
Exam Administration	5
Special Accommodation for Examination Administration	7
Examination Language Policy	8
Examination Registration	8
Examination Rules	10
Examination Scoring	11
Examination Results	12
CLT-LANA Credentials and Professional Registry	12
Examination Retake Policies	12
Examination Appeals	12
Grounds for Revocation of Certification	14
Recertification Policy	15
 Appendices:	
Ethics Policy	20
Privacy/Confidentiality Policy	21
Examination Specification and Content Outline	22
Acronyms & Synonyms	26
Starling’s Principle of Fluid Exchange	27
Examination Items	28
Reading List	30

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Introduction

LANA is a non-profit corporation composed of healthcare professionals, including physicians, nurses, physical therapists, occupational therapists, and massage 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:

1. Develop, establish, and maintain standards of qualification for persons who specialize in the treatment of lymphatic disorders.
2. Develop, establish, and maintain appropriate certification examinations to ensure minimum levels of acceptable competence fundamental to the proper treatment of lymphedema.
3. Develop, establish, and maintain standards of knowledge, skill, and programs to promote continuing competence among registrants.

This booklet 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 booklet 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 booklet in preparation for the examination.

The certification examination described in this booklet is one of the mechanisms employed by LANA to meet its objectives of offering certification opportunities for clinical practitioners. To this end, LANA administers the examination process by: defining and updating bodies of knowledge; conducting field surveys; analyzing 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. LANA's examination development partner Schroeder Measurement Technologies, Inc. (SMT)'s 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 and best practices governing such matters. The LANA examinations are professionally developed and adhere to professional standards such as those promulgated by ISO/IEC (17024), The National Commission for Certifying Agencies (NCCA), the *Standards for Educational and Psychological Testing* of the American Psychological Association (APA), American Educational Research Association (AERA), and the National Council on Measurement in Education (NCME).

The LANA Certified Lymphedema Therapist Credential Philosophy

Designation as a Certified Lymphedema Therapist through LANA is meant to assure stakeholders (the public, employers, patients, and regulators) that the credentialed professional has demonstrated an established level of competence in the field. Applying research performed in the development of the CLT-LANA credentialing program, candidates are measured against standards reflecting competence in the role as it is practiced today.

The goal of the CLT-LANA program is to:

- Provide a means for lymphedema therapists to demonstrate the critical knowledge, skills, and abilities necessary to protect the public.
- Establish legally-defensible, valid, and reliable criteria against which competence as a CLT-LANA may be measured.
- Encourage personal and professional growth.
- Recognize those who demonstrate and maintain competence as a CLT-LANA.
- Serve patients, employers, and the public by encouraging standards-based lymphedema therapy services of the highest quality.
- Provide a national registry of CLT-LANAs; serving the stakeholder need to identify lymphedema therapists who are nationally certified.

Statement of Impartiality

LANA provides an objective and balanced certification awarding service. LANA adheres to transparent procedures based on ISO/IEC Standard 17024, which contain checks and balances to ensure the objectivity of the certification activities. LANA's Policies and Procedures and the Bylaws address potential and actual Conflicts of Interest (COI). Our organizational structure is designed to manage any COI and to ensure the objectivity of our Board of Directors and the LANA Certification Examination.

Statement of Non-discrimination

LANA does not discriminate in the participation in the CLT-LANA Certification Program and prohibits discrimination against its candidates, certified persons, employees, and volunteers on the basis of race, color, national origin, age, disability, sex, gender identity, religion, and where applicable, political beliefs, marital status, or sexual orientation.

Candidate Eligibility Requirements

A CANDIDATE MUST:

- Provide a copy of a current and unrestricted U.S. state or international professional license or registration as a Registered Nurse (RN), Occupational Therapist (OT), Certified Occupational Therapy Assistant (COTA), Physical Therapist (PT), Physical Therapist Assistant (PTA), Medical Doctor (MD), Doctor of Osteopathic Medicine (DO), Doctor of Chiropractic (DC), Registered Massage Therapist (RMT), or Certified Athletic Trainer (CAT/ATC). Massage Therapists who do not hold a current unrestricted state license or registration (or international 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 proof of successful completion of a LANA qualified instructional course in Complete Decongestive Therapy (CDT) course work from no more than four consecutive or cumulative courses from one training program.
 - The coursework provided by the training school must meet the following requirements:
 1. 45 hours ($\frac{1}{3}$ of 135 hours) delivered: in-person or asynchronous remote or synchronous remote or a combination of in-person, asynchronous remote, and/or synchronous remote
 2. 90 hours ($\frac{2}{3}$ of 135 hours) delivered: in-person or synchronous remote or a combination of in-person and synchronous remote
 3. In-person assessment by the program director or program instructor of psychomotor skills **MUST** occur in the same physical space; **remote assessment will NOT be accepted.**

The assessment must include the following:

Psychomotor skill check covering a minimum of:

1. Upper and lower extremity MLD including pathways and truncal rerouting
2. Upper and lower extremity bandaging

Case-based practical examination to include but not limited to:

1. Student is expected to demonstrate their knowledge, skills, and abilities by critically reasoning through a medical case, followed by MLD and bandaging of that patient

** The completion certificate(s) must indicate that the student has successfully completed the training program AND passed the in-person assessment.*

- Provide proof of basic science requirement completion consisting 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 the transcript must be submitted with the application form. (Note: a three-credit course meets three hours per week for 16 weeks for a total of 48 clock hours). Science courses taken within a massage therapy curriculum do not count toward the required 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, DC, and MT trained in Canada in a 2200-hour program. These individuals should **not** submit transcripts.

ALL required candidate submissions, which includes professional license, course certificate and, if needed, transcripts and academic records with the originals, must be submitted in English only. Non-English document submissions must be translated to English and completed by a professional translation service and/or credential evaluation service (preferably, with NACES membership - (<https://www.naces.org/>)).

Program Certificate:

The completion certificate(s) should include:

1. Name of Certificant
2. Successful completion of CDT Include date and method of instruction
3. Indication that the student has successfully completed the training program
4. Indication that the student passed the in-person assessment, including date and location
5. Source of CEU approval with the number of hours
6. Signature of program director and instructor

Examination Application

Candidates who meet all requirements for eligibility and have successfully completed a qualified instructional course must complete the online application [form](#).

Please note the application will NOT be processed unless the candidate includes the following:

1. Completed online application, including all declarations, notifications, and agreements confirming policies and procedures and LANA's Ethics and Privacy/Confidentiality Policies
2. A photocopy of candidate's current professional license, registration, or verification
3. A photocopy of CDT course certificate(s) specifying the number of contact hours completed (Do **NOT** attach copies of certificates for any activity that does not directly pertain to basic CDT course certification hours. **Review the Candidate Eligibility Requirements section and program certificate requirements.**)
4. For Massage Therapists ONLY: A college transcript with proof of successful completion of science requirements with an exception for Registered Massage Therapists who trained in Canada in a 2200-hour program
5. Candidate electronic signature
6. Application fee

If unable to complete an online application, contact admin@clt-lana.org for assistance.

Examination Administration

If the application is deficient, candidates will be notified via email with an explanation of the problem area(s) and will have 30 days to complete the application process before the online application is deleted.

Application Processing

Applications will be processed by LANA within 3-5 business days of completed application. If an application is approved, candidates will receive email instructions concerning examination registration procedures from the testing company within 3 business days.

Application Information Changes

If the name, mailing address, email address, and/or telephone number entered on the application changes during the application process, candidates must notify LANA in writing no later than six days after such change of information. Candidates are responsible for reporting

changes, as important correspondence is sent throughout the process, and an application or examination registration may be forfeited in case of faulty contact information. Also, candidates must notify LANA in writing and provide supporting documentation in cases of a legal name change. Please note the name on the identification documents presented at the test site must match the name on file with LANA at the time of registration.

Certification of Accuracy, Agreement and Release Authorization

Candidates are required to attest and verify the accuracy of the application and to agree to abide by the LANA Ethics Policy (Appendix 1). Any misrepresentation or misconduct related to the application or examination may result in disqualification for, or revocation of, certification. By applying for the CLT-LANA credential, candidates agree to the terms set forth in the application and this CIB regarding certification requirements and the examination.

Denial of Application

Candidates submitting incomplete applications will be notified in writing of any deficiencies and will be provided 30 days to address issues as described. If the candidate does not complete the application in the 30-day window, the application and supporting documents are destroyed. Any monies paid will be returned and the candidate must re-submit the application in its entirety. Candidates who suspect they may not meet CLT-LANA eligibility requirements are strongly encouraged to contact LANA prior to submitting an application.

If an exam application is denied, applicants are able to appeal following LANA's Policy and Procedure Manual, Appeals, Complaints, and Discipline.

Policy for Appeal of Application Denial

LANA shall provide applicants the right to appeal a decision to deny candidacy to sit for the LANA exam. An appeal must be submitted to LANA within five working days of receipt of an application denial. The appeal must be in writing and detail the nature of the appeal. Appeals will be accepted via USPS/courier or email and should be sent to LANA at the posted address(es). There is no fee associated with an application denial. All decisions of the Appeals & Discipline Committee are final.

Procedures for Appeal of Application Denial

To provide applicants the right to appeal a decision to deny candidacy, LANA shall ensure the Appeals & Discipline Committee performs the following tasks:

- Determine the validity of the appeal based upon the submitted documentation.
- Send notification by like correspondence within ten business days of receipt of the appeal whether the appeal has been accepted or denied.
- Send all communication from the committee to the address stated on the submitted appeal.
- Bring accepted appeals for consideration by the committee.
- Conduct the review within 30 days of receipt of the appeal.
- Only appeals brought forth for consideration by the committee will be reviewed.

The committee shall take the following actions as required:

- Review the statement of the appeal.
- Review the documents supporting the appeal.
- Review comments from the executive director and Qualifications Committee concerning the initial application denial.
- Request and review additional documentation from the appellant to support the appeal as required.

The appellant will be notified of the decision by registered by like correspondence within 15 business days of the committee meeting. No member of the committee will communicate directly with an applicant. Communication concerning the appeal will be made between the executive director or designated person and the applicant.

The committee may put forth the following decisions based upon evidence presented:

- Grant the appeal and accept the application as submitted.
- Deny the appeal and refuse the candidate to sit for the LANA exam.

All decisions of the Appeals & Discipline Committee are final.

Verification of Candidate Eligibility

LANA reserves the right to verify the experience and education attested to by the Candidate. This may be accomplished by a phone interview with employers and/or references, or through verification of education/training transcripts or certificates and/or licenses and registrations. Additional documentation may be requested to support the application attestations.

Special Accommodations for Examination Administration

LANA and the test administrator provide special examination accommodations for candidates who qualify for services in accordance with the Americans with Disabilities Act of 1990 (ADA). If a disability prevents a candidate from taking the examination under normal conditions, special accommodations may be requested. The candidate must submit a written request along with documentation of the disability, as diagnosed by a qualified healthcare professional.

Candidates requesting accommodations may be contacted by LANA to discuss the disability and requested accommodation. In conference with a psychometrician, with consideration of examination security and examination administration guidelines, a reasonable accommodation will be made. Candidates will be notified in writing of the accommodations to be offered.

Appealing Decisions on Special Accommodations:

While it is LANA's policy to accommodate special needs requests whenever possible, in the unlikely case LANA denies a request for special testing accommodations, the candidate has the right to appeal the decision according to the following policy and procedure:

Policy for Appeal of Decisions on Special Accommodations

LANA shall afford applicants requesting special accommodations the right to appeal decisions concerning denial of special accommodations, or challenge the special accommodations offered. Should an applicant feel their request for accommodations was wrongly denied, or that the accommodations offered are inappropriate, the Appeals & Discipline Committee holds responsibility for considering appeals. All decisions of the Appeals & Discipline Committee are final.

Procedures for Appeal of Decision on Special Accommodations

The Appeals & Discipline Committee shall perform the following tasks:

- Determine the validity of the appeal based upon the submitted documentation.
- Send the appellant notification by like correspondence within 10 business days of receipt of the appeal whether the appeal has been accepted or denied.
- Send communication from the Committee to the address stated on the submitted appeal.
- Bring accepted appeals for consideration by the Committee.
- Conduct the appeal review within 30 days of receipts of the appeal.
- Only appeals brought forth for consideration by the committee will be reviewed.

The committee shall take the following actions for each appeal:

- Review the applicant statement of appeal and supporting documentation from the diagnosing healthcare professional.
- Review the statement from the executive director and/or Qualifications Committee concerning the special accommodation denial or the special accommodations offered to the candidate which were appealed.
- In conference with a psychometric expert and legal counsel (as required), request and review information concerning the feasibility of providing the requested accommodation(s).

The committee may put forth the following decisions based upon evidence presented.

- Grant the appeal and provide the special accommodation(s) as requested.
- Grant the appeal and offer alternative special accommodations.
- Deny the appeal.

The appellant will be notified of the decision by like correspondence within 15 business days of the committee meeting. No member of the committee will communicate directly with an appellant. Communication concerning the appeal will be made between the executive director and the appellant.

All decisions by the Appeals & Discipline Committee are final.

Examination Language Policy

For reasons related to examination standardization, security, and cost, the CLT- LANA examination is offered only in English at this time. If English is not the candidate's primary

language, LANA recommends (but does not require) candidates consider sitting for the TOEFL (Test of English as a Foreign Language) examination prior to sitting for the CLT-LANA examination. Scores on the TOEFL® will provide a useful gauge to assess if reading and English comprehension skills are adequate to take and potentially pass 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 website.

Examination Registration

Upon application approval, an authorization email from the examination administration company, Iso-Quality Testing, Inc. (IQT), will be sent to the candidate. This important email will contain instructions for scheduling an examination appointment online and provide a username and password to access the online registration system. If computer access is not available, candidates may contact IQT directly to schedule an examination toll-free at (866) 773-1114. Appointments are available weekdays and some evenings and weekends, depending upon the specific testing center requested.

Once the online scheduling process is completed, the candidate will be prompted to print the admission letter which must be brought to the examination center. If the candidate has chosen to take the exam using a remote proctor, the candidate will show this ticket to the remote proctor through the web camera.

Authorization to take the examination is valid for 12 months from the date of the authorization email. If the exam is not completed within 12 months of the examination authorization, candidates must reapply for the examination, in its entirety, including the application and the full examination fee.

To cancel or reschedule a scheduled examination, the candidate must call IQT toll-free at (866) 773-1114 **at least five business days prior to the examination date**. A \$25 cancellation fee will be required directly from the candidate to the testing company. Failure to attend the scheduled examination (i.e., no-show) for any reason, or if admittance to the test site is denied due to a failure to adhere to established procedures, the examination and registration fee will be forfeited. All examination fees are non-refundable. Cancellation of the examination **less than five business days prior to the examination date** is not allowed unless one of the following four situations has occurred:

- Jury Duty
- Death in the immediate family (defined as a person's grandparents, parents, spouse, siblings, or children)
- Military Deployment
- Sickness (as documented by a medical professional)

If a candidate experiences one of the situations above, the candidate **MUST** submit documentation to **both** IQT **and** LANA within 10 calendar days of the missed examination date or it will not be considered for a reschedule.

Candidates should arrive at the test center at the time noted on the admission document(s) with the required admission letter. Remote testing candidates should review and follow instructions

indicated in the Prometric Pro User Guide. Proper government-issued photo identification is also required for all examinations. The only acceptable forms of identification are: a 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 a candidate's name has changed since receiving the examination notice, the candidate must notify LANA prior to taking the exam. In addition, the candidate must bring documentation to the testing center showing the previous name and current name (i.e., divorce decree, court order, marriage license, or notarized affidavit).

After establishing positive identification, candidates will be escorted to a computer station for testing. Remote testing candidates should review and follow instructions indicated in the Prometric Pro User Guide and the remote proctor.

Candidates will login using the unique username and password provided on the admission letter. After logging in, a short tutorial is presented, which provides training on how to use the computer mouse or keyboard to take the test. Additionally, the proctor is trained to assist with any questions about how to use the system. The system is extremely user friendly and can be operated with a few key strokes or a computer mouse. Candidates will have five minutes to complete the tutorial. Upon completion, candidates will be prompted to begin the examination. Once the candidate begins the exam and the first item appears, a timer will appear on the screen. Subsequent screens will also display the timer and the amount of time the candidate has remaining to complete the exam. Registered candidates may take a sample test (content is not lymphedema-therapy related) before going to the test site by accessing the testing contractor's website using the following link:

<https://www.iqtesting.com/Default.aspx?FunctionSampleExam&Exam=8>

The system provides an option to "bookmark" questions for review later. At any time, candidates can return to the bookmarked questions, review the questions, change the answers, etc. The test ends when two hours have elapsed or when candidates ask the computer to end the test. The system will then offer a short questionnaire about the experience at the test center (the proctor's behavior, level of service, ease of use, etc.). Scores will be available approximately 60 seconds after test completion.

Examination Rules

- Dress is "business casual."
- Failure to follow test center or remote proctor instructions will result in a candidate's application being voided and forfeiture of the application fee. Conduct that results in a violation of security or disrupts the administration of the examination could result in dismissal from the examination.
- **Disqualifying behaviors include:**
 - Creating a disturbance;
 - Aiding or asking for aid from another candidate;
 - Attempting to remove, copy, buy, sell, or reproduce any testing materials;

- Possessing unauthorized test materials;
 - Impersonating another candidate;
 - Using contraband materials or equipment in the testing site;
 - Falsifying or misrepresenting any information provided during the application process;
 - Failing to exit the testing center after completing the examination.
- Candidates are prohibited from discussing examination content or possessing reference materials or any other examination information at any time during the **entire** examination period. Discussing the examination content after completing the examination is also prohibited, especially in the testing center as other candidates in the area might be taking a break and may not have completed the examination. Candidates may not attend the examination only to review or audit test materials. Candidates 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 a candidate communicate orally, electronically or in writing with any person or entity about the content of the examination or individual examination questions.**
 - Candidates writing on anything other than provided material will be in violation of the security policies above. Reference materials are not allowed in the testing room. All materials provided will be turned in to the proctor at the completion of the exam.
 - Candidates are not allowed personal items including food, beverages or personal possessions and technology (e.g., cellular phones, beepers, headphones, purses) in the testing area. No electrical outlets are available to candidates.
 - At testing locations climate is controlled to the extent possible, be prepared for either warm or cool temperatures at the testing center to reduce the likelihood of discomfort. Due to limited parking facilities at some sites, please allow ample time to park and reach the testing area.
 - Policy on Fraud: IQT and LANA maintain strict policies to safeguard the security of the examination throughout the administration. Any individual who removes, or attempts to remove, examination materials from the testing site, including memorizing examination questions, is subject to prosecution in addition to sanctions that may include removal of certification and restrictions on future access to the examination. Should IQT and/or LANA determine evidence of cheating, they reserve the right to invalidate test scores and mandate retesting.

Examination Scoring

The examination consists of 120 multiple choice questions with four options, only one of which is correct. Twenty of these questions are included for research purposes only. The research questions are not identified; therefore, candidates must answer all questions to their best ability.

Candidate performance on the examination will be measured against a predetermined standard of knowledge and skills. This standard is the level of knowledge and skills reasonably expected of lymphedema-therapy professionals. Candidates will NOT be measured against the

performance of the other individuals taking the examination. This means if everyone who takes the examination meets the standard, everyone will pass. All questions on the examination carry the same weight toward the final score. Since there is no penalty for a wrong answer, it is to the candidate's advantage to answer every question, even if it is a guess.

The passing score for the CLT-LANA examination is set by a national panel of expert representatives in the field of lymphology. These experts reviewed each examination question, evaluated the difficulty of the question, and made a judgment as to how a professional, having the defined standard of competence, would perform on the question. These judgments were analyzed statistically to determine the passing score.

The examination is designed only to distinguish those who have the minimum requisite knowledge and skills from those who do not. There is no evidence someone who receives a very high score on the examination will be a noticeably better practitioner than someone whose score falls exactly at the passing point. Passing candidates will be informed only that they successfully completed the certification process. Passing candidates will NOT be notified of an actual numeric score. Failing candidates will be provided with an overall numeric, scaled score and diagnostic information concerning content area strengths and weaknesses to be used for future study. Examination scores are converted onto a reporting scale to ensure a common reporting standard across examination forms. The passing grade required is a scaled score of 700 out of a possible 1000 scaled score points. Candidate scores are based solely on the candidate's performance on the certification examination.

Examination Results

Barring any unforeseen, extenuating circumstances, examination results will be provided immediately after the examination at the examination site. Exam results WILL NOT be released over the phone.

CLT-LANA Credentials and Professional Registry

Candidates who achieve a passing score on the certification examination may use the credential CLT-LANA after their names. The CLT-LANA certification mark may be used only as long as 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 which may be revised from time to time.

Passing candidates who earn the CLT-LANA credential will have their business contact information listed on the LANA registry within 48 hours, unless a candidate has opted-out of inclusion. Candidates will receive their certification documents from the testing company in approximately eight weeks.

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 six months after the date of the first examination. The candidate must re-register in its entirety and pay the current exam fee.

Candidates are permitted to take the examination three times in a 24-month period. If a candidate fails to achieve a passing score following three attempts in a 24-month period, the candidate must wait an additional 12 months before becoming eligible to apply to take the examination again. LANA strongly recommends the candidate use this time to complete additional training in CDT.

Examination Appeals

LANA is committed to providing a fair process for appeals and disciplinary action for any candidate or CLT-LANA. The Examination Committee shall consider all appeals and complaints and take action according to the following policy and procedures.

Policy for Appeal for Examination Results

LANA shall provide candidates the right to appeal examination results within the following specified criteria: Examination results may be appealed in situations restricted to extraordinary examination administration circumstances that were properly reported to the examination administrator/proctor at the time of the exam and the LANA Board and:

- Arise coincidentally with the examination administration;
- Are outside the control of the candidate;
- Made the candidate's experience different from other candidates' (related to the examination administration) and/or affected the candidate's ability to receive credit for a test question (related to the examination content);
- Were severe enough to account for examination failure.

Unless ALL of the above circumstances are met, no single circumstance, including examination failure, will be considered grounds for appeal. If written documentation of the extraordinary circumstances is not received by LANA and the testing company within five working days of an examination administration, candidates forfeit the right to appeal.

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SMT/ISO
Client Relations Manager
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www.isoqualitytesting.com/contactus.aspx

Candidates are allowed time and opportunity to comment on individual examination questions, and the overall testing experience during computer-based testing. These comments are reviewed and taken into consideration during psychometric reviews of the examinations and their overall reliability and validity. However, to maintain the security of the examinations, candidates are not able to review the examination, nor have access to the examination key or performance information on individual questions.

Candidates are not offered the opportunity to have their examinations rescored, as the examination is given in electronic form, so unlike paper/pencil examinations, there is no opportunity for individual candidate examination scoring errors.

All decisions of the Appeals & Discipline Committee are final.

Procedures for Appeal of Examination Results

LANA's president shall hold responsibility for the conduct of the following tasks:

- Appoint a chair and at least two additional members to the Appeals & Discipline Committee as identified in this manual in section VII, N, 1, c. Constituency.
- Send notification to the appellant by like correspondence within ten business days of receipt of the appeal whether the appeal has been accepted or denied.
- Send all communication from the committee to the address stated on the submitted appeal.
- Bring accepted appeals for consideration by the committee.
- Only appeals brought forth for consideration by the committee will be reviewed.
- The review will take place within 30 days of the receipt of the appeal.

The committee shall take the following actions for each appeal:

- Review the candidate statement of appeal.
- Review a statement from the LANA BOD representative concerning the exam process relative to the appeal.
- Investigate the appeal, including conferring with the examination administrator concerning the examination administration to review candidate comments and information about extenuating circumstances.

The committee may put forth the following decisions based upon evidence presented:

- Grant the appeal.
- Deny the appeal.
- Deny the appeal and grant the applicant an attempt at the next examination administration without additional cost.

The appellant will be notified of the decision by correspondence within 15 business days of the committee meeting. No member of the committee will communicate directly with an appellant. Communication concerning the appeal will be made between the executive director and the applicant.

All decisions of the Appeals & Discipline Committee are final.

Grounds for Revocation of Certification

Policy on Certification Revocation/Suspension

LANA shall have the authority to suspend or revoke certification for cause. General causes for suspension or revocation include, but are not limited to, fraud, deceit, malfeasance, failure to protect the public and/or failure to follow LANA's policies and procedures, including submission of inaccurate data to obtain and/or maintain certification. LANA shall task the Appeals & Discipline Committee with responsibility for considering situations whereby suspension/revocation of a LANA credential may be appropriate.

While the committee will put forth best efforts to provide certified persons advance notice of intent to investigate cause for revocation/suspension, in cases where the health and safety of the stakeholders is in jeopardy, the credential may be revoked/suspended without advance notice. All due process shall be in place in either case.

Specific examples of infractions that are grounds for certification suspension/revocation include:

- Falsifying information on a LANA application.
- Misappropriating secure examination materials.
- Providing fraudulent information during the LANA certification examination administration process.
- Assisting other applicants during the examination administrations.
- Misusing or misrepresenting a LANA credential, mark, or logo.
- Violating LANA's policies, procedures, standing rules, or requirements.
- Failing to maintain competency (failing to recertify).
- Having been found guilty of violating the law with respect to professional responsibilities by a court, licensing agency, or registration agency.

All decisions by the Appeals & Discipline Committee are final.

Procedures for Certification Revocation/Suspension

In fulfillment of its responsibilities to consider situations where the revocation/suspension of a credential may be appropriate, the Appeals & Discipline Committee shall perform the following tasks:

- Review validity of the information relating to revocation/suspension of a credential.
- Send the certified person notification by certified mail that the committee shall be considering revocation/suspension of the credential, or that the credential has been revoked/suspended.
- Provide the certified person with an opportunity to present a defense in writing to the allegations related to consideration of the suspension/revocation within five business days of receipt of the initial notification of intent to revoke/suspend the credential.
- Bring suspension/revocation requests forward for consideration by the committee.
- Conduct a review of the request within 30 days of receipt of the request to revoke/suspend.

- Only requests brought forth for consideration by the committee will be reviewed.

The committee shall take the following actions as required:

- Review the certified person's response to notification of revocation/suspension of the credential including documentation presented to argue against the committee action(s).
- Review any documentation provided in defense of the suspension/revocation.
- Review comments from the executive director and/or Executive Committee concerning the revocation/suspension.
- Request and review additional documentation from the certified person as required.
- Notify the certified person of any additional action taken by the committee concerning the revocation/suspension by like correspondence within 15 business days of the committee meeting. If a certification is revoked, the formerly certified person shall return the original certificate and any copies to LANA.

The committee may put forth the following decisions based upon evidence presented:

- Suspend/revoke the certification.
- Set aside the certification suspension/revocation order.
- Reprimand the certified person.
- Reprimand the certified person and provide a corrective plan.
- Suspend/revoke the certification and take additional disciplinary action concerning the complaint, including but not limited to notifying legal/regulatory authorities, notifying stakeholders who may be at risk based on the certified person's behavior, and taking legal action against the certified person.

All decisions by the Appeals & Discipline Committee are final.

Recertification Policy

LANA Certification is valid for six years. Each certificate given to the candidate indicates the expiration date. All certifications expire on December 31st, six years from the last certification date. An individual whose certification is set to expire must submit an application for recertification or an application for inactive status by December 31st of the year their certification expires. Failure to apply for recertification or apply for inactive status by the deadline will place the individual in expired status. **It is the responsibility of the CANDIDATE to recertify at the appropriate time** (see "Extensions" for additional information).

Application for Recertification:

All candidates for recertification must submit the following:

1. Proof of a current and unrestricted U.S. professional state license, registration or equivalent Canadian provincial or territorial license, or registration as stated in initial certification process
2. A completed online recertification application
3. Current recertification fee

4. Documentation of meeting the criteria for recertification as outlined below. **It is the responsibility of the candidate to provide documentation identifying the activities AND hours earned toward recertification.**

Options for Recertification:

Certified therapists may attain recertification status through **ANY** combination of the options listed below as long as the total reaches a **minimum** of 24-contact hours. Documentation of required hours is the responsibility of the candidate. **Options are:**

1. Continuing education. Topics must relate to the management of individuals with lymphedema. Examples include but are not limited to: anatomy or physiology of the lymphatic system, treatment of lymphedema, wound care, therapeutic bandaging/taping, cancer rehabilitation, chronic venous insufficiency, lymphedema self-management programs, and various upper and/or lower extremity courses providing they take into consideration the circulatory system (candidates may be required to show syllabi from such courses).
2. Attendance at a national or international lymphology or lymphedema related conference.
3. Teach college-level courses related to lymphedema management. Topics include but are not limited to: anatomy or physiology, lymphedema treatment, therapeutic taping, wound care, vascular and/or integumentary disorders. **Documentation must include a course outline with hours in the classroom.**
4. Participate in literature reviews or webinars available to LANA members only, through the LANA website. Regarding literature reviews: links to articles are available online in the LANA learning center and each article has a corresponding quiz. Candidates must be able to obtain the article; unless full text is posted online, depending on copyright. Regarding webinars: links to videos are available online in the LANA learning center with corresponding quiz. To receive one-hour credit per quiz toward recertification, candidates must score of at least 70%. Candidates may earn a maximum of 10 credits in one cycle of recertification upon successful quiz completion. Candidates may submit a quiz for credit one time, retakes are not allowed. (Note that online literature reviews and webinars with quiz questions are not approved for CME/CEU credits by professional organizations other than LANA.)
5. Teach an approved, educational-lymphedema course. Teaching an approved, educational lymphedema course will be counted as two-contact hours for every in-class contact hour. A one-time additional two-contact hour preparation time will be accepted. **Documentation must include a course outline with hours in the classroom.**
6. Author an article in a peer-reviewed journal, author a chapter in a published book, or edit a multiple-author published book. Authoring an article, authoring a chapter, or editing a book will each be counted as 15-contact hours. **Documentation must include a copy of evidence of completion of the activity.**

7. Make a peer-reviewed poster or platform-research presentation. A peer-reviewed poster or platform-research presentation will be counted as five-contact hours. **Documentation must include a copy of evidence of completion of the activity.**
8. Retake the LANA certification exam (including payment of the full examination fee). Eligible candidates are invited to consider the option of retaking the LANA exam as a means of recertification. No continuing education contact hours are required for individuals taking this option.
9. Participants on LANA's Examination Committee will be awarded five-contact hours per day towards recertification for exam development meetings (2.5 –contact hours for a half day or two- to four-hour exam development conference calls).

Any of the options listed above can be combined to reach the minimum total of 24 hours required for recertification.

Please check website (www.clt-lana.org) for updates and changes

Inactive Status

Upon petition, an inactive status may be granted on a case-by-case basis. Candidates petitioning for inactive status must submit **in writing** a request for inactive status, stating the reason for the request. Decisions to grant inactive status and the details regarding what a candidate must do to obtain said status will be made by the Recertification Committee of LANA. The length of the inactive status will also be decided on a case-by-case basis by the Recertification Committee at the time of the request. Individuals who have their certification placed on inactive status will be removed from the LANA website and other LANA relevant materials. Candidates who apply for inactive status must pay the current fee to be placed on inactive status. Once the inactive status has expired, the individual will be required to meet all the current recertification requirements and any requirements stipulated in their inactive status.

Expired Status

Individuals, who do not apply for inactive status and allow their LANA certification to expire, will be required to apply for certification by examination as a non-certified CLT-LANA therapist. Candidates must meet the eligibility requirements for recertification and successfully complete the Certification Examination. Therapists who allow their certification to expire will be removed from the LANA website and other relevant materials.

Extensions

In unusual situations, special extensions may be arranged allowing a candidate to recertify if the deadline has passed, but the request to recertify falls within one year of the original deadline. A candidate in this situation should contact LANA to learn the details of the extension policy. The granting of special extensions is rare and will be determined by the Recertification Committee of LANA.

Denial of Recertification Application

Candidates submitting incomplete recertification applications will be notified through email of any deficiencies and will be provided 30 days to address issues as described. If the candidate does not complete the recertification application in the 30-day window, the application and supporting documents are destroyed. Any monies paid will be returned and the candidate must re-submit the application in its entirety. Candidates who suspect they may not meet CLT-LANA recertification eligibility requirements are strongly encouraged to contact LANA prior to submitting a recertification application.

Policy for an Appeal of Recertification Application Denial

LANA shall afford certified persons the right to appeal a decision to deny recertification. Should a certified person feel their recertification application was wrongly denied, LANA shall task the Appeals & Discipline Committee with responsibility for considering an appeal.

An appeal shall be submitted to the committee within five working days of receipt of notification of a recertification application denial. The appeal must be in writing and detail the nature of the appeal. Appeals will be accepted via email. There is no fee associated with the recertification application denial appeal. All decisions by the Appeals & Discipline Committee are final.

Procedures for an Appeal of a Recertification Application Denial

In fulfillment of its responsibilities to consider recertification denial appeals, the Appeals & Discipline Committee shall perform the following tasks:

- Review the validity of the appeal based upon the submitted documentation.
- Send the appellant notification by like correspondence within 10 business days of receipt of the appeal whether the appeal has been accepted or denied.
- Send communication from the committee to the address stated on the submitted appeal.
- Bring accepted appeals to consideration by the committee.
- Conduct the appeal review within 30 days of receipt of the appeal.
- Only appeals brought forth for consideration by the committee will be reviewed.

The committee shall take the following actions for each appeal:

- Review the statement of the appeal.
- Review the documents supporting the appeal.
- Review comments from the executive director and Recertification Committee concerning the initial recertification application denial.
- Request and review additional documentation from the appellant to support the appeal.
- Notify the certified person of the committee decision within 15 business days of the committee meeting.

The committee may put forth the following decisions based upon evidence presented:

- Grant the appeal and accept the recertification application as submitted.
- Deny the appeal and provide the certified person with an extension during which they are afforded the opportunity to address the reason for the recertification application rejection.
- Deny the appeal and revoke the credential.

All decisions by the Appeals & Discipline Committee are final.

Appendix 1

Ethics Policy



It is the policy of LANA that its CLT- LANA members and Board Members uphold the highest standards of ethical, professional behavior. To that end, LANA members and Board Members shall dedicate themselves to carrying out the mission of the organization and shall demonstrate:

Integrity in actions

- Demonstrate the highest standards of personal integrity, truthfulness, honesty, and fortitude in all actions in order to inspire confidence and trust in such actions
- Maintain the highest degree of integrity in dealing with potential, current, and past members including respecting and protecting privileged information accessed through the course of professional actions
- Strive for personal and professional excellence and encourage the professional development of others

Responsibility to professional development

- Advance skills through participation in continuing education
- Promote lymphedema awareness and the science of lymphology
- Collaborate with and support other professionals in carrying out LANA's mission

Respect and compassion for all

- Respect diversity through fair and objective advice and actions without influence on the basis of race, color, national origin, age, disability, sex, gender identity, religion, and where applicable, political beliefs, marital status, or sexual orientation
- Respect the structure and responsibilities of the LANA Board of Directors, provide them with facts and advice as a basis for making policy decisions, and uphold and implement policies adopted by the LANA Board of Directors
- Maintain national standards of care and service for the lymphedema community



Appendix 2

Privacy/Confidentiality Policy

LANA has created and abides by a strict privacy/confidentiality policy demonstrating its firm commitment to CLT-LANA candidate and certificant privacy. The policy applies to all aspects of the CLT-LANA credential including the secure handling and storage of application materials, examinations, scores, and candidate and certificant records. LANA and its agents shall keep confidential all candidates' and certified persons' information (including name, address, telephone numbers, examination scores, and other confidential records) unless authorized for release by the candidate or certified person.

It is the policy of LANA that non-disclosed, protected information may NOT be released to or shared with:

- Any member of the public unless there is an applicable statutory exception or written release from the CLT-LANA candidate or certificant.
- Any LANA member unless the recipient has a legitimate interest for the use of protected information to perform a service (i.e., committee work).

Furthermore, LANA staff with access to protected information are expected to protect any information from unauthorized disclosure. This includes, as appropriate:

- Computer Systems and Applications Security: Central processing units, peripherals, portable storage devices, operating system, applications software and data.
- Physical Security: The premises occupied by LANA or its contractors using computer equipment storing or having access to protected information.
- Operational Security: Environmental control, power equipment, operational activities related to operations.
- Procedural Security: Established and documented security processes for information technology staff, vendors, management, and individual users of protected information.
- Network Security: Communications equipment, transmission paths, switches, terminals and adjacent areas.



Appendix 3

CLT-LANA DETAILED CONTENT OUTLINES

In Spring 2022, changes to the exam content outline and the number of questions were announced. All, exams will be based on the new 2022 CLT-LANA Detailed Content Outline beginning August 1, 2022. The following are detailed outlines of the content and sub-content areas covered in the examination, along with their respective weightings showing what percentage of the examination questions are covered by each main content area. Please make sure that you are using the correct outline based on your exam date.

CLT-LANA DETAILED CONTENT OUTLINE **For examinations through July 30, 2022**

The examination contains 120-questions and candidates will be allowed two hours to complete the examination.

I. ANATOMY AND PHYSIOLOGY 25%

A Comprehension of anatomy

1. Circulatory system (i.e., venous and arterial)
2. Lymphatic system
 - a. Embryology
 - b. Lymphangiogenesis
 - c. Prelymphatic channels
 - d. Lymphatic vessels
 - e. Lymph nodes
 - f. Lympho-venous anastomoses
 - g. Watersheds and collateral anastomoses
 - h. Superficial drainage pathways
 - i. Head and neck
 - ii. Upper extremities
 - iii. Lower extremities
 - iv. Trunk
 - v. Genital
 - i. Deep drainage pathways (e.g., abdominal, pelvic, thoracic organs, limbs)
3. Integumentary system
4. Interstitium

B Comprehension of physiology

1. Function of the circulatory system including the lymphatic system

2. Microcirculation
 - a. Starling's hypothesis and equilibrium (including updates)
 - b. Safety factors that prevent edema
3. Lymph formation and transport

2. LYMPH VASCULAR DISORDERS (i.e., primary and secondary lymphedema) 15%

- A. Differentiate etiology
- B. Identify pathology and pathophysiology
- C. Classify and stage lymph vascular disorders
- D. Recognize sign and symptoms

3. OTHER DISORDERS (e.g., lipedema, lipolymphedema, phlebolympedema, chronic venous insufficiency, myxedema) 10%

- A. Differentiate etiology
- B. Identify pathology and pathophysiology
- C. Recognize signs and symptoms

4. PATIENT EVALUATION 20%

A. Identify relevant elements of patient history

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

B Assess implications of patient history

C Recognize potential complications associated with lymphedema

1. Medical conditions associated with lymphedema (e.g., angiosarcoma, cellulitis, anasarca, lymphoceles, cancer recurrence)
2. Medical conditions that exclude treatment (e.g., acute congestive heart failure, untreated cellulitis, acute deep venous thrombosis)
3. Medical conditions that may limit treatment approach (e.g., compensated congestive heart failure, peripheral neuropathy, cognitive impairment)
4. Medical conditions that can affect lymphedema treatment outcomes (e.g., arthritis, hypertension, impaired mobility)

D Conduct physical examination

1. Weight and height
2. Appearance of involved limb(s) and adjacent areas (e.g., deepened skin folds, lobules, discoloration)
3. Clinical signs (e.g., tissue texture, Stemmer's sign)
4. Peripheral pulses
5. Range of Motion (ROM), muscle strength, posture, and gait
6. Sensation
7. Measurements (e.g., circumferential, volumetric, perometry)
8. Skin integrity (e.g., lymphorrhea, fungal infection)

E Comprehension of diagnostic tests (e.g., lymphoscintigraphy, computerized tomography (CT), magnetic resonance imaging (MRI), venous Doppler examination, and ankle brachial index (ABI))

1. Purpose
2. Testing procedures

F Incorporate results of diagnostic tests in treatment planning

5. LYMPHEDEMA MANAGEMENT 30%

A Apply principles of complete decongestive therapy (CDT)

- 1 Manual lymphatic drainage (MLD)
 - a Effects
 - b Technique concepts (e.g., pressure, direction, sequence)
- c Contraindications
- 2 Compression bandaging
 - a Effects
 - b Concepts (e.g., materials, gradient pressure, procedure)
 - c Contraindications
- 3 Compression garments
 - a Effects
 - b Concepts (e.g., types and styles, fitting principles, grades of compression)
 - c Contraindications
- 4 Decongestive exercises
 - a Effects
 - b Concepts (e.g., variations, approaches)
 - c Contraindications
- 5 Skin care
- 6 Education
 - a Activities of Daily Living (ADL) modifications
 - b Compression bandaging
 - c Compression garments (i.e., wear and care)
 - d Exercise
 - e Lymphatic drainage
 - f Nutrition
 - g Precautions and risk reduction
 - h Self-assessment

- i Skin care
- j Signs and symptoms of infection
- k Weight management
- l Follow-up

B Recognize principles of adjunct treatments

- 1 Intermittent pneumatic compression (IPC)
- 2 Additional compression devices
- 3 Additional treatment options (e.g., laser, elastic taping, deep oscillation)

C Adapt treatment plan to specific populations and needs (e.g., pediatric, palliative care, wound care)

D Recognize factors that affect quality of life (e.g., psycho-social, adherence issues)

E Identify best practices (e.g., International Lymphoedema Framework (ILF), International Society of Lymphology (ISL), National Lymphedema Network (NLN))

Updated October, 2013

CLT-LANA DETAILED CONTENT OUTLINE
For examinations beginning August 1, 2022

Beginning August 1, 2022, the examination consists of 130 multiple choice questions with four options, only one of which is correct. Twenty of these questions are included for research purposes only. The research questions are not identified; therefore, candidates must answer all questions to their best ability.

Candidates taking the updated content exam starting 8/1/2022, will not receive immediate scores and instead will receive scores in 6-8 weeks. Once the cut has been determined and the scoring equation put back in place, candidates will have automatic scoring.

DOMAIN 1: Anatomy and Physiology 25%

A. Distinguish among anatomical structures of the human body

- 1. Venous and arterial circulatory systems
- 2. Lymphatic system
 - a. Embryology
 - b. Lymphangiogenesis
 - c. Pre-lymphatic channels
 - d. Lymphatic vessels
 - e. Lymph nodes
 - f. Lympho-venous anastomoses

- g. Watersheds and collateral anastomoses
 - h. Superficial drainage pathways
 - i. Deep drainage pathways
 - 3. Integumentary system
 - 4. Interstitium
- B. Demonstrate understanding of physiological functions
 - 1. Circulatory and lymphatic systems
 - 2. Microcirculation
 - a. Starlings and Revised Starling's hypotheses and equilibrium
 - b. Safety factors that prevent edema
 - 3. Musculoskeletal system
 - 4. Interstitium
 - a. Adipose tissue
 - b. Inflammation

DOMAIN 2: Lymphedema, Vascular, and Related Disorders (e.g., primary and secondary lymphedema, fat disorders, arteriovenous disease) 30%

- A. Differentiate etiologies
- B. Identify pathology and pathophysiology
- C. Distinguish signs and symptoms

DOMAIN 3: Patient Evaluation and Treatment Planning 15%

- A. Obtain a comprehensive patient history
- B. Determine functional status
- C. Conduct a comprehensive patient examination including:
 - 1. Vital signs and peripheral pulses
 - 2. Cognition and affect
 - 3. Neuromusculoskeletal assessment
 - 4. Integumentary assessment
 - 5. Measurements
 - 6. Appearance, clinical signs, and staging
- D. Identify purpose and procedural techniques of diagnostic tests
- E. Review diagnostic and lab tests results
- F. Identify early interventions for at-risk populations
- G. Formulate individualized treatment plan and goals

DOMAIN 4: Management of Lymphedema and Related Disorders 30%

- A. Integrate principles of complete decongestive therapy (CDT) in clinical settings
 - 1. Manual lymphatic drainage (MLD)
 - 2. Compression bandaging and garments
 - 3. Decongestive and functional exercises
 - 4. Skin and wound care
- B. Integrate core principles of adjunct clinical treatments and modalities
 - 1. Fibrosis, soft tissue, and scar management
 - 2. Elastic/kinesiology taping
 - 3. Intermittent pneumatic compression (IPC)

4. Emerging therapies
- C. Formulate patient education and transition to self-management
 1. Activities of Daily Living (ADL) modifications
 2. Compression bandaging and garments
 3. Home program and therapeutic and recreational exercise
 4. Lymphatic drainage
 5. Weight management and nutrition
 6. Precautions and risk reduction practices
 7. Skin care
 8. Signs and symptoms of infection
 9. Nonelastic containment systems
 10. Intermittent pneumatic compression (IPC)
- D. Identify adaptations to treatment for special populations and needs
 1. Pediatrics
 2. Palliative care
 3. Bariatric (BMI > 40)
- E. Recognize cognitive, physical, psychological, and socioeconomic factors that affect quality of life and treatment
- F. Analyze potential complications associated with lymphedema and comorbid conditions
 1. Medical conditions associated with lymphedema
 2. Medical conditions that are absolute contraindications to treatment
 3. Medical conditions that are relative contraindications to treatment
 4. Medical conditions that can affect lymphedema treatment outcomes
- G. Identify surgical interventions to manage lymphedema and related disorders
 1. Surgical treatments
 2. Pre-operative management
 3. post-operative care
- H. Identify the implications of pharmaceutical and/or supplemental treatments
- I. Recognize the impact of cancer and cancer treatment on lymphedema management

Revised 3/2022
For exams beginning 8/2022



Appendix 4

Acronyms & Synonyms

Candidates should note they will be required to understand the following acronyms when they sit for the examination, as they will appear in test questions:

CDT = Complete Decongestive Therapy

CHF = Congestive Heart Failure

CRPS 1 = Complex Regional Pain Syndrome

DVT = Deep Vein Thrombosis

MLD = Manual Lymphatic Drainage

RSD = Reflex Sympathetic Dystrophy

Candidates should note they will be required to understand the following synonyms when they sit for the examination, as they will appear in test questions:

CRPS 1 = RSD

High Volume Insufficiency = Dynamic Insufficiency

Lymphocele = Seroma = Pseudocyst

Appendix 5



Starling's Principle of Fluid Exchange

In Response to Inquiries About Starling's Principle of Fluid Exchange.

LANA is aware that for the past two decades there has been a rethinking of Starling's Principle. Because most references and textbooks continue to use the traditional understanding, for now Starling's related exam questions will focus only on the traditional Starling's forces and safety factors and their effect on fluid balance in the tissues. Exam candidates will not be required to distinguish between "traditional" Starling's and the more recent interpretation.

For individuals who are interested in understanding the newer interpretation of the Starling's Principle, the following readings are recommended. Be aware that the content of these readings is not currently the focus of exam questions.

1. Diseases of the Lymphatics. Browse, Burnand, and Mortimer eds, 2003 by CRC Press, Chapter 3
2. Levick JR: Revision of the Starling principle: new views of tissue fluid balance. *J Physiol* 557(3) (2004) p. 704. 2004.
3. Levick JR, Michel CC: Microvascular fluid exchange and the revised Starling principle. *Cardiovascular Research* 87(2):198-210. 2010
4. Mortimer PS, Rockson SG: New developments in clinical aspects of lymphatic disease. *J. of Clinical Investigation* 124(3):915-921. 2014.



Appendix 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. lipolymphedema.
- c. secondary lymphedema.

d. phlebolymphe~~ma~~.

#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. The history of a person with lymphedema 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
- 2. D
- 3. B
- 4. C
- 5. A
- 6. C
- 7. B
- 8. C

The information provided in this CIB is the property of LANA and may not be copied or distributed for any other purposes.

Appendix 7

Reading List

PLEASE NOTE THIS IS NOT A REQUIRED READING LIST. LANA highly recommends reviewing class notes and bibliographies.

1. Browse, N., Burnand, K., & Mortimer, P.: *Diseases of the Lymphatics*. Arnold, Great Britain. 2003. ISBN: 0 340 76203 9
2. Földi, M., Földi, E., Strobenreuther, R., Kubik, S.: Foldi's *Textbook of Lymphology for Physicians and Lymphedema Therapists* 3rd edition Urban & Fischer, 2012. ISBN 13:978-07234-3446-7 ISBN 10: 0-7234-3446-8
3. Guyton, A.C., Hall, J.E.: *Textbook of Medical Physiology*. 13th edition Chapters 16 and 25. Philadelphia, PA, W.B.Saunders Elsevier, 2015. ISBN 978-1-4160-4574-8
4. Kasseroller, R.: *Compendium of Dr. Vodder's Manual Lymph Drainage*. Haug Verlage, 1998. ISBN 3-7760-1729-5
5. Weissleder, H., Schuchhardt, C.: *Lymphedema - Diagnosis and Therapy*. 4th edition. Kagerer Kommunikation, 1997, and Viavital Publishers, 2001, 2007. ISBN 3-934371-38-8 ISBN 13 978-3-934371-38-5
6. Wittlinger, H., Wittlinger, D., Wittlinger, A., Wittlinger, M.: *Dr. Vodder's Manual Lymph Drainage. A Practical Guide*. 2nd edition. Georg Thieme Verlag, 2018. ISBN 978-3-13-143191-2
7. Zuther, J.: *Lymphedema Management: The Comprehensive Guide for Practitioners*. 4th edition. Thieme Medical, 2017. ISBN: 978-3-13-139482-8

8. O'Sullivan, S., Schmitz, T., Fulk, G.: Physical Rehabilitation. 7th edition. 2019 Davis, F.A. Co (Ch 14: Vascular, Lymphatic and Integumentary Disorders). ISBN-13: 9780803661622

9. Lee, Byung Boong., Rockson, Stanley G., Bergan, John.: Lymphedema: A Concise Compendium of Theory and Practice. 2nd edition. Springer, 2018. ISBN-13: 978-3319524214

Revised 2019