

This is a **Sample** version of the
Lung Cancer Symptom Scale (LCSS)

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- LCSS Overview information
- LCSS Scoring/ Administration instructions (2 pgs)
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Measurement of Quality of Life in Patients with Lung Cancer in Multicenter Trials of New Therapies

Psychometric Assessment of the Lung Cancer Symptom Scale

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Background. This study continued the development and psychometric testing of the Lung Cancer Symptom Scale (LCSS), a disease- and site-specific instrument primarily measuring the physical and functional dimensions of quality of life for individuals with lung cancer. The instrument contains two scales, one for patients and a counterpart for health professionals as observers.

Methods. Feasibility, reliability, construct validity, and criterion-related validity were evaluated with 207 patients with non-small cell lung cancer (NSCLC) from six cancer centers. Within an interview with an observer, patients completed part of a battery of instruments by self-report and were interviewed for the remaining measures. Observers also completed measures after the interview.

Results. Feasibility, reliability, and validity were well supported for this lung cancer population. Feasibility was demonstrated by patient and staff compliance in completion at all six cancer centers. Internal consistency

was good, with coefficient alphas of 0.82 for the patient scale and 0.75 for the observer scale. Construct validity was supported by

1. contrasted groups approach: regression lines (with 95% confidence bands) were obtained between the Karnofsky performance scale (KPS) and each of the two LCSS scales;

2. as a refinement, relationship testing: significant correlations between the LCSS and KPS for each item (except hemoptysis for the patient scale); and

3. multitrait-multimethod approach: good reliability (alphas ranging from 0.75 to 0.93), good convergent validity for the two LCSS scales ($r = 0.77$), and a good discriminant validity pattern from the Brief Symptom Inventory (BSI).

Criterion-related validity with relevant gold standard measures (American Thoracic Society Questionnaire [ATS] and McGill Pain questionnaire, KPS, Profiles of Mood States [POMS], and Sickness Impact Profile [SIP]) was supported with significant correlations (0.40–0.67 for the LCSS patient scale; 0.54–0.65 for the LCSS observer scale).

Conclusions. These psychometric properties demonstrate that the LCSS patient and observer scales are feasible, reliable, and valid quality of life measures that are ready for research and clinical use with lung cancer populations. *Cancer* 1994; 73:2087–98.

Key words: lung cancer, clinical trials, quality of life, subjective measurement, Lung Cancer Symptom Scale, psychometrics.

The importance of measurement of subjective factors in cancer clinical trials has been recognized for some time by clinical researchers.¹ The Food and Drug Administration regulations specify that new drug approval generally requires improvement in survival and/or quality of life.² This indicates an important role for subjective measurement in new agent clinical trials. In 1985, Schipper

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Lung Cancer Symptom Scale (LCSS)

Overview Information

The **LCSS** is designed as a site-specific measure of quality of life (QL), particularly for use in clinical trials. It evaluates six major symptoms associated with lung malignancies and their effect on overall symptomatic distress, functional activities, and global QL. The philosophy that the trial. It captures in detail those dimensions most likely to be influenced by therapeutic interventions and evaluates other dimensions globally. It consists of two scales: one completed by the patient and an optional one for health care professionals ("counterpart observer") to provide context.

Administration: Face-to-face interview initially for demonstration of visual analogue scale (VAS) with a simple example question related to the weather, with telephone interview acceptable once patient is familiar with VAS.

Time to Complete:

Patient scale: 8 minutes initially for demonstration of VAS; 3-5 minutes for subsequent administrations. **Observer scale:** 2 minutes.

Number of Items:

Patient scale: 9 **Observer scale:** 6

Number of QL Dimensions/Domains:

Five, with physical and functional in detail, and others captured globally.

Names of QL Dimensions/Domains:

To measure in depth those areas most relevant to evaluating health interventions, this instrument concentrates on the physical and functional QL dimensions in patients with lung cancer. Other dimensions (psychological, social, and spiritual) are captured in less detail by summation items.

Scaling of items:

Patient scale: 9 visual analogue scales (100 mm horizontal line). Patient puts a mark on line to indicate intensity of response to the items in question (0 = lowest rating; 100 = highest rating). **Observer scale:** 5-point categorical scale (100 = none; 75 = mild; 50 = moderate; 25 = marked; 0 = severe).

Scoring:

Patient scale: Scores equal length of line marked by patient. An average of the aggregate score of all 9 items is used for a total score. In addition, a subscore using the

The is the end of the LCSS admin & scoring instructions sample version. Please return to page 1 to purchase complete version.

Note: Proper administration requires that each question be presented on a separate card.

LUNG CANCER SYMPTOM SCALE (LCSS): PATIENT SCALE

Directions: Please place a mark along each line where it would best describe the symptoms of your lung cancer DURING THE PAST DAY.

Example Question:

How is the weather today?

As good as it could be

As bad as it could be



1. How is your appetite?

As good as it could be

As bad as it could be



2. How much fatigue do you have?

None

As much as it could be



3. How much coughing do you have?

None

As much as it could be



4. How much shortness of breath do you have?

None

As much as it could be



LUNG CANCER SYMPTOM SCALE {LCSS}: OBSERVER SCALE

Directions: Direct the interview to assess lung cancer symptoms using the timeframe of DURING THE PAST DAY.

1. Loss of appetite: (Score: _____)

100 None.

75 Mild; occasional loss of appetite but does not interfere with food intake.

50 Moderate; occasional loss of appetite which occasionally interferes with food intake.

25 Marked; frequent loss of appetite which generally interferes with food intake.

0 Severe; appetite so poor that medical intervention for feeding (Intravenously or feeding tube) is needed.

2. Fatigue: (Score: _____)

100 None.

75 Mild; occasionally troubled by modest fatigue.

50 Moderate; usually troubled by modest fatigue.

25 Marked; occasionally troubled by major fatigue.

0 Severe; usually troubled by major fatigue.

3. Cough: (Score: _____)

100 None.

75 Mild; present and increased over a year ago, but not bothersome; no medications needed.

50 Moderate; bothersome; leads to SOB on occasion.

25 Marked; bothersome; disturbs sleep and other normal functioning.

0 Severe; nearly constant; disrupts any normal activities.

The is the end of the LCSS questionnaire sample version. Please return to page 1 to purchase complete version.