# Oncology Section EDGE Task Force Report Summaries

## Colon Cancer Outcomes

<table>
<thead>
<tr>
<th>Authors</th>
<th>Diagnosis/ Measures</th>
<th>Type, Search method, number of studies identified/reviewed, study criteria</th>
<th>Findings/ EDGE Ratings</th>
<th>Conclusions and Recommendations</th>
</tr>
</thead>
</table>
| Burgess, F, Galambos, L, Howland, A, Yalamanchili, M, Pfalzer, L | COLON CANCER: Strength and Muscular Endurance | Type: Systematic Review  
Search Method: Google Scholar, Ovid, PubMed/MEDLINE, CINAHL, Web of Science, Cochrane Review, PEDro, Scopus, and Clinical Key  
Studies: 4922 identified; 21 reviewed.  
Criteria:  
- Peer-reviewed publications from 1995 to March of 2014  
- Published in English  
- Psychometric properties were reported  
- Clinically feasible methods  
- Conducted on adults. Each outcome measure was independently reviewed and rated by 2 reviewers. A single Cancer Evaluation Database to Guide Effectiveness (EDGE) Task Force Outcome Measure Rating Form was completed for each tool, and a recommendation was made using the 4-point Cancer EDGE Task Force Rating Scale. | Findings: Clinical measures of strength identified: 1) hand grip strength, 2) hand-held dynamometry, 3) isometric strength, 4) manual muscle testing, and 5) trunk flexion strength/lower extremity (LE) dynamometry, along with muscle endurance.  
Ratings:  
(4) Highly Recommended:  
(3) Recommended for clinical use:  
- Hand-held dynamometry and hand grip strength using dynamometry  
- Manual muscle testing, isometric strength testing, and trunk flexion/LE dynamometry  
(1) Unable to recommend at this time because of a lack of psychometric support:  
- Muscular endurance testing  
Isokinetic testing for muscle strength and endurance has been reported in pilot testing in patients with colorectal cancer; however, sample size was small (n = 4) and the clinical utility is poor. | “Using objective hand-held dynamometry for muscle strength testing provides precise measurement to assess baseline status and monitor change among those being treated for colorectal cancer. No measures for muscle endurance in the colorectal cancer population with adequate psychometrics were identified.” |

## Urogenital Cancer Outcome Measures

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</table>
| Jeffrey, A, Harrington, S, Hill, A, Roscow, A, Alappattu, M | UROGENITAL CANCER: Incontinence | Type: Systematic Review  
Search Method: Multiple electronic databases (MEDLINE, CINAHL, PsycINFO)  
Studies: 1118 articles identified, 228 reviewed, 37 outcome measures selected, 13 met criteria  
Criteria:  
- Outcome measures related to urinary or fecal incontinence in persons with a diagnosis of cancer  
- Published in the English language  
- Articles published Jan 1, 1995 through August 2015 | Findings: The following five of the 13 outcome measures assessing urinary incontinence and 2 of the 13 measures assessing urinary and fecal incontinence are recommended:  
Ratings:  
(4) Highly Recommended:  
- American Urological Association Symptom Index, Pelvic Floor Distress Inventory--Short Form, and Pelvic Floor Impact Questionnaire--Short Form.  
(3) Recommended for clinical use:  
- Incontinence Quality-of-Life Questionnaire and International Consultation on Incontinence Questionnaire--Short Form  
(2A) Unable to recommend at this time:  
- Urogenital Atrophy Questionnaire, Incontinence Impact Questionnaire, American Society of Colon and Rectal Surgeons Fecal Incontinence Questionnaire  
(2B) Unable to recommend at this time:  
- 24-hour pad test, Fecal Incontinence Severity Index  
(1) Do not recommend:  
- 1-hour pad test, Radiumhummel Scale of Disease Specific Symptoms Assessment--Prostate Cancer | “Five of the 13 outcome measures assessing urinary incontinence and 2 of the 13 measures assessing urinary and fecal incontinence demonstrated satisfactory psychometric properties and application to the urogenital cancer population and are thereby recommended for use by the Task Force.” |
<table>
<thead>
<tr>
<th>Type</th>
<th>Systematic Review</th>
<th>Search Method</th>
<th>PubMed/MEDLINE, CINAHL, Web of Science, Cochrane Review, and PEDro.</th>
<th>Studies</th>
<th>Findings</th>
<th>Ratings</th>
<th>Findings</th>
<th>Ratings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cohn, J, Geyer, H., Lee, J, Fisher, M.</td>
<td>UROGENITAL CANCER: Lymphedema</td>
<td>Published in the English language</td>
<td>Both water displacement and circumferential measurement methods by tape measure were rated as Highly Recommended to quantify lower-extremity limb volume. Water displacement was determined to be the criterion standard by which all other assessments of volume are benchmarked. Both optoelectric volumetry and bioelectric impedance analysis were rated as Recommended, and ultrasound was rated Not Recommended</td>
<td>(4) Highly Recommended: Water displacement and circumferential measurement methods by tape measure</td>
<td>(3) Recommended for clinical use: Optoelectric volumetry and bioelectric impedance analysis</td>
<td>(2B) Unable to recommend at this time because of poor psychometric properties: None</td>
<td>Unable to recommend at this time because of poor psychometric properties: None</td>
<td></td>
</tr>
<tr>
<td>Davies, C., Colton, G., Geyer, H., Pfalzer, L., Fisher, M</td>
<td>PROSTATE CANCER: Functional Mobility</td>
<td>Published clinically feasible methods</td>
<td>Present clinically feasible methods</td>
<td>Published in the English language</td>
<td>Articles published after 1995 through “present”</td>
<td>Articles published after 1995 through May 2014</td>
<td>Articles published after 1995 through May 2014</td>
<td>Articles published after 1995 through May 2014</td>
</tr>
<tr>
<td>Harrington, S., Lee, J., Colton, G., Alappattu, M</td>
<td>PROSTATE CANCER: Health-Related Quality of Life</td>
<td>Report psychometric properties</td>
<td>Present clinically feasible methods</td>
<td>Have adults (preferably male) as participants, published in the English language</td>
<td>Articles published after 1995 through May 2014</td>
<td>Articles published after 1995 through May 2014</td>
<td>Articles published after 1995 through May 2014</td>
<td>Articles published after 1995 through May 2014</td>
</tr>
<tr>
<td>Fisher, M., Davies, C., Colton, G., Geyer, H., Pfalzer, L</td>
<td>PROSTATE CANCER: Clinical Measures of Strength and Muscular Endurance</td>
<td>Manual muscle testing rated as Highly Recommended to quantify lower-extremity limb volume</td>
<td>Hand grip strength and hand-held dynamometry rated</td>
<td>One repetition maximum rated (measure has been used in prostate cancer research however)</td>
<td>Ultrasound</td>
<td>None</td>
<td>None</td>
<td>None</td>
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</table>
### Head and Neck Cancer Outcomes

<table>
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<tr>
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</table>
- Clinically feasible  
- Relevant to the HNC population | Findings: The following three outcome measures demonstrate strong psychometric properties across multiple patient populations but minimally in the head and neck cancer (HNC) population.  
- The Neck Disability Index  
- Northwick Park Neck Pain Questionnaire  
- Neck Pain and Disability Scale | “Further Research should address the efficacy and appropriateness of these measures of these measures for use in patient populations presenting with cancer-related neck dysfunction for HNC.” |
| Eden, M., Flores, A., Galantino, M., Spinnelli, B. | HEAD & NECK CANCER-related Shoulder Dysfunction | Type: Systematic Review of Patient Reported Outcomes Method: PubMed, PEDro, EBSCO Host, Medline, PsycINFO, and Cochrane Database Studies: 47 outcome measures found of which 16 met the criteria to be reviewed. Criteria:  
- Clinically feasible  
- Relevant to the HNC population | Findings: Out of the 16 outcome measures reviewed, 5 are recommended:  
- The Neck Disability Index  
- Northwick Park Neck Pain Questionnaire  
- Shoulder Pain and Disability Index (SPADI)  
- University of Washington Quality of Life (UW-QOL) shoulder sub-scale | “The DASH, QuickDASH and the SPADI demonstrate strong psychometric properties across multiple patient populations, but have been minimally used in the HNC population. The NDII and UW-QOL were specifically developed for the HNC population but have not been fully tested. Further research should address the efficacy and appropriateness of these measures for use in patient populations presenting with shoulder dysfunction in the setting of HNC.” |
| Galantino, M., Eden, M., Spinnelli, B., Flores A. | HEAD & NECK CANCER: Temporomandibular Related Dysfunction | Type: Systematic Review Method: Ovid Medline, PubMed, PEDro, EBSCO Host, Medline, PsycINFO, and Cochrane Database Studies: 1068 total articles, yielding 38 outcome measures, 22 of which were included in the systems review Criteria:  
- Clinically feasible  
- Patient reported | Findings: Four measures are recommended for clinical use.  
- The Graded Chronic Pain Scale 8  
- 20-item Jaw functional limitation Scale  
- TMD Pain Screener | “A variety of outcome measures have been reported in the literature for individuals with HNC-related TMD. Four measures, the Graded Chronic Pain Scale, 8 and 20-item Jaw Functional Limitation Scale and TMD Pain Screener, are recommended for clinical use by the researchers on this task force although it is important to note psychometric properties specific to the HNC population are lacking.” |
| Flores, A., Spinnelli, B., Eden, M., Galantino, M. | HEAD & NECK CANCER: Quantifying External Lymphedema | Type: Systematic Review Method: PubMed, PEDro, EBSCO Host, Medline, PsycINFO, and Cochrane Database Studies: 11,337 articles, 141 of which were patient reported outcomes and 254 were clinical measures Criteria:  
- Studies on humans  
- Published in English | Findings: No outcome measures for objectively quantifying external edema for the head and neck cancer population can be recommended. Ratings: Not Recommended | “The edema measures included in the review have been tested on HNC patients but have not been rigorously tested due to their novelty. There is need for more research on this topic prior to providing definitive recommendations.” |

### Breast Cancer Outcomes

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<thead>
<tr>
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</table>
| Huang, M., Blackwood, J., Crouarkin, E., Wampler-Kahn, M., Colon, G., Pfalzer L. | BREAST CANCER: Balance | Type: Systematic Review Method: PubMed, Medline/ovid, CINAHL, Cochrane Review, Web of Science, and PEDro Studies: 683 articles found and 36 included in this review Criteria:  
- Published in English  
- Between January 1,1995- July 31,2014  
- Described balance outcome measures, balance deficits, or interventions to improve physical function in cancer survivors. | Findings: More studies are needed to support the outcome measures for balance in breast cancer survivors. | “This review demonstrates that there is a lack of research evidence supporting the psychometric properties of outcome measures for balance in breast cancer survivors. No studies have examined cutoff scores of balance assessment tools for detecting fallers in breast cancer survivors. Future research is necessary to identify self-reported outcome measures for assessing balance and fall risks, and to differentiate tools specifically for different practice settings throughout the continuum of cancer survivorship.” |
<p>| Harrington, S., Miale, S., Ebaugh, D. | BREAST CANCER: | Type: Systematic Review Method: Medline, PsychINFO Studies: 1,407 articles reviewed, 48 outcome measures identified | Findings: 11 measures are recommended for clinical use by the Task Force Ratings: 4 Highly Recommended: | “A variety of outcomes measures have been reported in the literature to assess HRQOL in women diagnosed with breast cancer. Eleven measures were found to have satisfactory psychometric properties” |</p>
<table>
<thead>
<tr>
<th>Health Related Quality of Life</th>
<th>Type: Systematic Review</th>
<th>Search Method: CINAHL, PEDro, PubMed (Medline), Cochrane, Science Direct. Hooked on Evidence, Web of Science, Scopus, and Sport Discus databases.</th>
<th>Studies: 3837 articles identified</th>
<th>Criteria:</th>
<th>Findings:</th>
<th>Ratings:</th>
<th>Further understanding of the psychometric properties of SET used in the breast cancer survivor population is needed in order to make these tests safe, accurate, and clinically useful.”</th>
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<tbody>
<tr>
<td></td>
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<td>Female survivors of Breast cancer</td>
<td>SIXty-eight articles met initial criteria, but only five were found that reported useable psychometric data.</td>
<td>4 Highly Recommended:</td>
<td>None</td>
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<td>Articles written in English</td>
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<td>None</td>
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<td>2A Unable to Recommend</td>
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**CANCER: Cardio-respiratory Fitness Tests**

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<thead>
<tr>
<th>Drouin, J., Morris, G.S.3</th>
<th>Type: Systematic Review</th>
<th>Search Method: PubMed and CINAHL</th>
<th>Studies: 2500 articles</th>
<th>Criteria:</th>
<th>Findings:</th>
<th>Ratings:</th>
<th>“The Oncology Section Breast Cancer EDGE Task Force on Clinical Measures of CIPN recommends the FACT/GOG-Ntx during physical therapy screening or assessment of CIPN in breast cancer survivors who have received neurotoxic chemotherapy; however, it is not recommended for use in isolation. Therapists are encouraged to supplement with further tests and measures to capture sensory, motor, and autonomic deficits specific to each survivor, along with related activity and participation restrictions.”</th>
</tr>
</thead>
<tbody>
<tr>
<td>BREAST CANCER: Chemotherapy-induced Peripheral Neuropathy</td>
<td>English</td>
<td>Studies on humans</td>
<td>2007-August 2014</td>
<td>Clinically feasible</td>
<td>11 measures met the review criteria</td>
<td>4 Highly recommended</td>
<td>Functional Assessment of Cancer Therapy, Gynecologic Oncology Group-Neurotoxicity Scale (FACT/GOG-Ntx)</td>
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<td>addressing the chemotherapy-induced peripheral neuropathy (CIPN) experience</td>
<td>published psychometric properties established in survivors of breast cancer</td>
<td>2 Unable to Recommend at this time</td>
<td>The 10 remaining measures:</td>
<td></td>
<td></td>
<td>2A Unable to Recommend</td>
</tr>
<tr>
<td></td>
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<td></td>
<td>Functional Assessment of Cancer Therapy/ Gynecologic Oncology Group-Neurotoxicity Scale (FACT/GOG-Taxane)</td>
<td>Chemotherapy-induced Peripheral Neuropathy Assessment Tool (CIPNAT)</td>
<td>Rasch-built Overall Disability Scale for Patients with CIPN (CIPN-R-OOD)</td>
<td>European Organization for Research &amp; Treatment in Cancer Quality of Life Quest – CIPN 20 item (EORTC QLQ-CIPN 20)</td>
<td>Patient Neurotoxicity Questionnaire (PNQ Taxanes, Cisplatin and Carboptatin version) Modified Total Neuropathy Score (mTNS)</td>
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**CANCER: Functional Mobility**

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<tbody>
<tr>
<td>BREAST CANCER: Functional Mobility</td>
<td>English</td>
<td>Studies after 1995</td>
<td>Clinically feasible methods</td>
<td>Performed on adults</td>
<td>A total of 11 measures recommended for clinical use</td>
<td>4 Highly recommended:</td>
<td>6 minute walk test</td>
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<td>2 Highly recommended:</td>
<td>2-Minute walk test</td>
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<td></td>
<td></td>
<td>3 Recommended for clinical use</td>
<td>5 Times Sit to Stand</td>
</tr>
</tbody>
</table>
**Type:** Systematic Review  
**Search Method:** Academic Search Premier, Health Source Nursing/Academic, MEDLINE, Ovid, PRE-CINAHL, CINAHL, CINAHL with full text, Psychology and Behavioral Collection, PubMed, Google Scholar, EBSCO host, Sports discus, Web of Science, Web of Knowledge, and Cochrane Databases.

**Studies:** 2114 articles reviewed

**Criteria:**
- Upper extremity
- Secondary Lymphedema
- Female adults
- Breast neoplasm
- 2001- May 2012
- Research prior to 2001 was included if psychometric properties has not been updated

**Findings:**
- The Task Force recommends three measures due to good reliability, validity, and clinical utility.

**Ratings:**
- 4 Highly recommended:
  - Circumferential measurement
  - Water displacement
  - Bioelectrical impedance spectroscopy (BIS)

- 2A Unable to Recommend at this time due to limited evidence:
  - Tonometry
  - Perometry
  - Lymphedema Breast Cancer Questionnaire (LBCQ) self-report tool
  - Visual Analog Scale

**Notes:**
- Breast Cancer EDGE Task Force recommends CM, water displacement, and BIS as routine physical therapy assessment tools for early detection of BCRL and/or to document response to interventions. Perometry is not recommended at this time due to poor clinical utility. Further research is needed to determine psychometric properties for tonometry, the LBCQ, and the Visual Analog Scale. Research is also needed to standardize the diagnostic criteria for each assessment tool to detect early onset of BCRL.
### BREAST CANCER: Scapular Assessment

**Type:** Systematic Review  
**Search Method:** Academic Search Premier, Medline, CINAHL, PubMed, Sport Discus, and Pedro.  
**Studies:** Initial search yielded 694 studies of which 59 were reviewed  
**Criteria:**  
- Clinically feasible test of scapular position or function  
- Psychometric properties reported  
- Published in English  

**Findings:** Dynamic movement assessment of the scapula is recommended, however, further information is needed relative to its value in the breast cancer population.  
**Ratings:**  
- None  
- 3 Recommended for clinical use: Dynamic Motion Assessment  

Fisher, M., Levangie, P., Kendig, T.

### BREAST CANCER: Upper Extremity Function

**Type:** Systematic Review  
**Search Method:** PubMed  
**Studies:** 131 articles reviewed  

**Findings:** Five outcomes measures are recommended by the Task force for assessing upper extremity function  
**Ratings:**  
- 4 Highly Recommended:  
  - DASH  
  - SPADI  
  - SRQ  
  - PSS  
- 2B Unable to Recommend:  
- 3 Recommended for clinical use: Upper Limb Functional Index (ULFI)  

Miale, S., Harrington, S., Kendig, T.

### BREAST CANCER: Shoulder and Glenohumeral Outcome Measures

**Type:** Systematic Review  
**Search Method:** Academic Search Premier, Health Source Nursing/Academic, MEDLINE, Ovid, PRE-CINAHL, CINAHL, CINAHL with full text, Psychology and Behavioral Collection, PubMed, Google Scholar, EBSCO host, Sports discus, and Cochrane Database  
**Studies:** 168 articles were reviewed  
**Criteria:**  
- English language only  

**Findings:** Passive goniometry demonstrated superior psychometric properties over active ROM. Muscle length tests were not specifically studies in the patient population with breast cancer. No information for the patient population with breast cancer found regarding accessory motion  
**Ratings:**  
- 4 Highly Recommended:  
  - Goniometry, passive range of motion  
- 3 Recommended:  
  - Goniometry, active range of motion  
  - Inclinometer, active and passive ranges of motion  
  - Assessment of "stiffness" at GHJ  
  - Pectoralis major muscle length assessment  
- 2B Unable to Recommend:  
  - Passive range of motion measurements to determine a capsular pattern of GHJ  
  - Assessment of end feel based on Cyriax continuum at the GHJ  

Perdomo, M., Sebelski, C., Davies, C.

**Outcomes by Condition**

- Hand grip strength and Hand Held Dynamometry  
  - 2B Unable to Recommend at this time  
  - Manual muscle test and one repetition maximum  
- 2A Unable to Recommend at this time  
- Muscular endurance testing

“Measurement of scapular motion remains a challenge and reliable and valid measures must precede further research into scapular problems among survivors of breast cancer.”

“Several outcome measures are used to measure shoulder function in people with breast cancer. Further research is needed to determine reliability and validity of these tools specific to the breast cancer population.”

“Of the shoulder/ Glenohumeral impairment outcomes included in this study, only passive ROM can be highly recommended as it demonstrated good psychometric properties and has been used in patients with breast cancer.”
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</table>
| Alappattu, M, Harrington, S, Hill, A, Roscow, A, Jeffrey, A. | SEXUAL DYSFUNCTION: Patient-Reported Measures | Type: Systematic Review  
Search Method: MEDLINE, CINAHL, PsycINFO  
Studies: 1118 articles were reviewed, 21 measures selected for analysis  
Criteria:  
• Published in English  
• Related to sexual function  
• From 1995 to August 2015 | Findings: Five of the 21 measures had satisfactory psychometric properties and were recommended:  
Ratings:  
4 Highly Recommended:  
• Sexual Function–Vaginal Changes Questionnaire;  
• International Index of Erectile Function; Erection Hardness Score;  
• Sexual Health Inventory for Men (aka International Index of Erectile Function–5)  
3 Recommended:  
• Sexual Interest and Desire Inventory  
2A Unable to Recommend:  
• PROMIS-Sexual Function  
• Female Sexual Function Index  
• Arizona Sexual Experience Scale  
• Golombok-Rust Inventory of Sexual Satisfaction  
• Psychological Impact of Erectile Dysfunction  
• Sexual Function Questionnaire  
• Changes in Sexual Functioning Questionnaire  
2B Unable to Recommend:  
• Female Sexual Distress Scale  
1 Not recommended:  
• Dyadic Adjustment Scale  
• Brief Sexual Function Questionnaire for Men  
• Sexual Concerns Questionnaire–Gynecological Cancer  
• Watts Sexual Function Questionnaire  
• Sexual Problems Scale  
• Brief Index of Sexual Functioning in Women  
• Brief Sexual Function Inventory for Men  
• Radiumhemmet Scale of Sexual Function | “Five of the 21 sexual dysfunction measures demonstrated satisfactory psychometric properties and application to the cancer population and are thereby recommended for clinical use in patients with cancer.” |
References:

