



APTA ONCOLOGY EDGE Task Force Report Summaries

Colon Cancer Outcomes

Authors	Diagnosis/ Measures	Type, Search method, number of studies identified/reviewed, study criteria	Findings/ EDGE Ratings	Conclusions and Recommendations
Burgess, F, Galambos, L, Howland, A, Yalamanchili, M, Pfalzer, L ¹	COLON CANCER: <u>Strength and Muscular Endurance</u>	<p>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:</p> <ul style="list-style-type: none"> 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. 	<p>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.</p> <p>Ratings: (4) Highly Recommended:</p> <ul style="list-style-type: none"> None <p>(3) Recommended for clinical use:</p> <ul style="list-style-type: none"> Hand-held dynamometry and hand grip strength using dynamometry <p>(2B) Unable to recommend at this time because of poor psychometric properties:</p> <ul style="list-style-type: none"> Manual muscle testing, isometric strength testing, and trunk flexion/LE dynamometry <p>(1) Unable to recommend at this time because of a lack of psychometric support:</p> <ul style="list-style-type: none"> Muscular endurance testing <p>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.</p>	<p>“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.”</p>

Urogenital Cancer Outcome Measures

Authors	Diagnosis/ Measures	Type, Search method, number of studies identified/reviewed, study criteria	Findings/ EDGE Ratings	Conclusions and Recommendations
Jeffrey, A, Harrington, S, Hill, A, Roscow, A, Alappattu, M ²²	UROGENITAL CANCER: <u>Incontinence</u>	<p>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:</p> <ul style="list-style-type: none"> 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 	<p>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:</p> <p>Ratings: (4) Highly Recommended:</p> <ul style="list-style-type: none"> American Urological Association Symptom Index, Pelvic Floor Distress Inventory–Short Form, and Pelvic Floor Impact Questionnaire–Short Form. <p>(3) Recommended for clinical use:</p> <ul style="list-style-type: none"> Incontinence Quality-of-Life Questionnaire and International Consultation on Incontinence Questionnaire–Short Form <p>(2A) Unable to recommend at this time:</p> <ul style="list-style-type: none"> Urogenital Atrophy Questionnaire, Incontinence Impact Questionnaire, American Society of Colon and Rectal Surgeons Fecal Incontinence Questionnaire <p>(2B) Unable to recommend at this time:</p> <ul style="list-style-type: none"> 24-hour pad test, Fecal Incontinence Severity Index <p>(1) Do not recommend:</p> <ul style="list-style-type: none"> 1-hour pad test, Radiumhummet Scale of Disease Specific Symptoms Assessment-Prostate Cancer 	<p>“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.”</p>

Cohn, J, Geyer, H, Lee, J, Fisher, M. ²³	UROGENITAL CANCER: <u>Lymphedema</u>	<p>Type: Systematic Review Search Method: Google Scholar, PubMed/MEDLINE, CINAHL, Web of Science, Cochrane Review, and PEDro. Studies: 181,658 articles found, 68 identified for review Criteria:</p> <ul style="list-style-type: none"> Published in the English language Clinically measured limb volume by direct or indirect means preferably to the lower extremities or genitals Report psychometric properties Present clinically feasible methods Included adults (18 years or older) as participants Articles published after 1996 through “present” 	<p>Findings: 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</p> <p>Ratings:</p> <p>(4) Highly Recommended:</p> <ul style="list-style-type: none"> Water displacement and circumferential measurement methods by tape measure <p>(3) Recommended for clinical use:</p> <ul style="list-style-type: none"> Optoelectric volumetry and bioelectric impedance analysis <p>(2B) Unable to recommend at this time because of poor psychometric properties:</p> <ul style="list-style-type: none"> None <p>(1) Unable to recommend at this time:</p> <ul style="list-style-type: none"> Ultrasound 	“Early detection of subclinical lower-extremity lymphedema in this patient population remains challenging, as there is no “index” limb that can be proven to be uninvolved in a patient population with documented pelvic node dissection/irradiation. No articles were found to support valid and reliable genital lymphedema volume measurement.”
Davies, C., Colon, G., Geyer, H., Pfalzer, L., Fisher, M ²¹	PROSTATE CANCER: <u>Functional Mobility</u>	<p>Type: Systematic Review Search Method: Google Scholar, Ovid, PubMed/MEDLINE, CINAHL, Sports Discus, Web of Science, Cochrane Review, and PEDro. Studies: 38,373 articles found, 87 included Criteria:</p> <ul style="list-style-type: none"> Report psychometric properties Present clinically feasible methods Have adults (preferably male) as participants, Published in the English language Articles published after 1995 through May 2014 	<p>Findings: For 10 walk tests, 5 ADL functional tests, and 7 self-reported community participation measures reviewed in this study, there were seven tests that were highly recommended:</p> <p>Ratings:</p> <p>(4) Highly Recommended:</p> <ul style="list-style-type: none"> 2-Minute Walk Test (2-MWT) and 6-Minute Walk Test (6-MWT) 10-Meter Timed Walk (10- MTW) Timed Up and Go (TUG) 5 times sit to stand (5xSTS) SPPB Physical Performance Battery for Patients with Cancer (PPB) <p>(3) Recommended:</p> <ul style="list-style-type: none"> Assessment of Life Habits (LIFE-H) Functional Independence Measure (FIM) Activity Measure for Post-Acute Care (AM-PAC) 	“Seven tests are highly recommended by the Oncology EDGE Task Force: 2-MWT, 6-MWT, 10-MTW, TUG, 5xSTS, SPPB, and PPB, based on good clinical utility and psychometric properties. Three tests are recommended but lack use in the cancer population: LIFE-H, FIM, and AM-PAC. Further research is needed to establish psychometric properties of other current measures, including validation among PCS, or to develop new assessment tools in the prostate cancer population.”
Harrington, S., Lee, J., Colon, G., Alappattu, M ¹²	PROSTATE CANCER: <u>Health- Related Quality of Life</u>	<p>Type: Systematic Review Search Method: PubMed/MEDLINE and Ovid, Google Scholar Studies: 163 publications met criteria and were reviewed Criteria:</p> <ul style="list-style-type: none"> Publication dates limited to January 1, 1995 and later Outcome measure reviewed comprised of: <ul style="list-style-type: none"> (1) Prostate cancer–specific HRQOL measures (2) General cancer HRQOL measures, and (3) General HRQOL measures 	<p>Findings: The following seven patient reported outcome measures are recommended to assess Health- related quality of life (HRQOL):</p> <p>Ratings:</p> <p>(4) Highly Recommended</p> <ul style="list-style-type: none"> European Organization for Research and Treatment of Cancer Quality of Life Questionnaire—Prostate 25 (EORTC QLQ- P25), Expanded Prostate Cancer Index (EPIC) Assessment of Cancer Therapy-Prostate (FACT-P) UCLA- Prostate Cancer Index (UCLA-PCI) EORTC Quality of Life Questionnaire- Cancer 30, (EOTRC QLQ) Functional Assessment of Cancer Therapy-General(FACT-G) Short Form 36, 12, 8 (SF) 	“A variety of patient reported outcome measures have been reported in the literature to assess HRQOL in men diagnosed with prostate cancer. Seven measures were found to have satisfactory psychometric properties, as well as good clinical utility, and are recommended for use by the researchers on this Task Force.”
Fisher, M., Davies, C., Colon, G., Geyer, H., Pfalzer, L ⁸	PROSTATE CANCER: <u>Clinical Measures of Strength and Muscular Endurance</u>	<p>Type: Systematic Review Search Method: PubMed/Medline CINAHL, Web of Science, Ovid, Google Scholar, Sports Discus, Cochrane Review, PEDro, and Academic Search Premier. Studies: 683 articles found, 30 included in this Review. Criteria:</p> <ul style="list-style-type: none"> Search was limited to articles published after 1995 Studies of tools used to assess strength and muscular endurance were included if they reported psychometric properties, clinically feasible methods, performed on adults, published in English. 	<p>Ratings:</p> <p>4 Highly Recommended:</p> <ul style="list-style-type: none"> None <p>3 Recommended for clinical use:</p> <ul style="list-style-type: none"> Hand grip strength and hand-held dynamometry rated <p>2A Unable to recommend:</p> <ul style="list-style-type: none"> One repetition maximum rated (measure has been used in prostate cancer research however) <p>2B Unable to recommend at this time due to lack of psychometric support:</p> <ul style="list-style-type: none"> Manual muscle testing rated <p>Not recommended:</p> <ul style="list-style-type: none"> Muscular endurance training 	“Utilizing objective dynamometry for hand grip and muscle strength testing provides precise measurement to assess baseline status and monitor change among men treated for prostate cancer.”

Head and Neck Cancer Outcomes

Authors	Diagnosis/ Measures	Type, Search method, number of studies identified/reviewed, study criteria	Findings/ EDGE Ratings	Conclusions and Recommendations
Spinelli, B., Galantino, M., Eden, M., Flores, A. ²⁰	HEAD & NECK CANCER- related Neck Dysfunction	Type: Systematic Review of Patient Reported Outcomes Search Method: PubMed, PEDro, EBSCO Host, Medline, PsycInfo, and Cochrane Database Studies: 120 outcome measures reviewed using the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) model. Criteria: <ul style="list-style-type: none"> 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. Ratings: 4 Highly Recommended: <ul style="list-style-type: none"> 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 used in patient populations presenting with cancer-related neck dysfunction for HNC.”
Eden, M., Flores, A., Galantino, M., Spinelli, B. ⁴	HEAD & NECK CANCER- related Shoulder Dysfunction	Type: Systematic Review of Patient Reported Outcomes Search 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: <ul style="list-style-type: none"> Clinically feasible Relevant to the HNC population 	Findings: Out of the 16 outcome measures reviewed, 5 are recommended: Ratings: 4 Highly Recommended: none 3 Recommended: <ul style="list-style-type: none"> The Disabilities of the Arm Shoulder and Hand (DASH) Neck Dissection Impairment Index (NDII) 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., Spinelli, B., Flores A. ¹⁰	HEAD & NECK CANCER: Temporomandibular Related Dysfunction	Type: Systematic Review Search Method: Ovid Medline, PubMed, PEDro, EBSCO Host, PsycInfo, and Cochrane Databases Studies: 1068 total articles, yielding 38 outcome measures, 22 of which were included in the systems review Criteria: <ul style="list-style-type: none"> Clinically feasible Patient reported 	Findings: Four measures are recommended for clinical use. Ratings: 4 Highly Recommended: none 3 Recommended: <ul style="list-style-type: none"> 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., Spinelli, B., Eden, M., Galantino, M. ⁵	HEAD & NECK CANCER: Quantifying External Lymphedema	Type: Systematic Review Search Method: databases PubMed, PEDro, EBSCO Host, Medline, PsycInfo, and Cochrane Studies: 11,337 articles, 141 of which were patient reported outcomes and 254 were clinical measures Criteria: <ul style="list-style-type: none"> 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

Authors	Diagnosis/Measures	Type, Search method, number of studies identified/reviewed, study criteria	Findings/ EDGE Ratings	Conclusions and Recommendations
Huang, M., Blackwood, J., Croarkin, E., Wampler-Kuhn, M., Colon, G., Pfalzer L. ¹⁵	BREAST CANCER: <u>Balance</u>	Type: Systematic Review Search Method: PubMed, Medline/OVID, CINAHL, Cochrane Review, Web of Science, and PEDro Studies: 683 articles found and 36 included in this review Criteria: <ul style="list-style-type: none"> 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. Ratings: 4 Highly Recommended: none 3 Recommended for Clinical Use: <ul style="list-style-type: none"> The Fullerton Advanced Balance (FAB) Scale and Timed Up and Go (TUG) 2B Unable to recommend at this time <ul style="list-style-type: none"> Six outcome measures were rated 2A Unable to recommend at this time <ul style="list-style-type: none"> Six outcome measures were rated 	“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.”
Harrington, S., Miale, S., Ebaugh, D. ¹³	BREAST CANCER: <u>Health Related Quality of Life</u>	Type: Systematic Review Search 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: <ul style="list-style-type: none"> European Organization for the Research and Treatment of Cancer Quality of Life Questionnaire (EORTC QLQ)- Breast 23 BREAST-Q Functional Assessment of Cancer Therapy (FACT)- Breast FACT-B+4 EORTC QLQ- Cancer 30 FACT- General Functional Living Index- Cancer Ferrans and Powers Quality of Life Index- Cancer Version Psychological Adjustment to Illness Scale, World Health Organization Quality of Life SF- Health Surveys 	“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 and recommended for clinical use by the researchers on this Task Force.”
Drouin, J., Morris, G.S. ³	BREAST CANCER: <u>Cardio-respiratory Fitness Tests</u>	Type: Systematic Review Search Method: CINAHL, PEDro, Pubmed (Medline), Cochrane, Science Direct, Hooked on Evidence, Web of Science, Scopus, and Sport Discus databases. Studies: 3837 articles identified Criteria: <ul style="list-style-type: none"> Female survivors of breast cancer Articles written in English 	Findings: Sixty-eight articles met initial criteria, but only five were found that reported useable psychometric data. Ratings: 4 Highly Recommended: <ul style="list-style-type: none"> None 3 Recommended: <ul style="list-style-type: none"> None 2A Unable to Recommend <ul style="list-style-type: none"> Maximal and Submaximal tests (treadmill, cycle ergometer, step, and walk/run tests) were valid and in this population, but are not safe or efficient for use in a clinical setting 	“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.”
Hile, E., Levangie, P., Ryans, K., Gilchrist, L. ¹⁴	BREAST CANCER: <u>Chemotherapy- induced Peripheral Neuropathy</u>	Type: Systematic Review Search Method: PubMed and CINAHL Studies: 2500 articles Criteria: <ul style="list-style-type: none"> English Studies on humans 2007-August 2014 Clinically feasible Addressing the chemotherapy- induced peripheral neuropathy (CIPN) experience Published psychometric properties established in survivors of breast cancer 	Findings: 11 measures met the review criteria Ratings: 4 Highly recommended <ul style="list-style-type: none"> Functional Assessment of Cancer Therapy, Gynecologic Oncology Group- Neurotoxicity Scale (FACT/GOG- Ntx) 2 Unable to Recommend at this time The 10 remaining measures: <ul style="list-style-type: none"> Functional Assessment of Cancer Therapy/ Gynecologic Oncology Group-Taxane (FACT/GOG-Taxane) Chemotherapy-induced Peripheral Neuropathy Assessment Tool (CIPNAT) Rasch-built Overall Disability Scale for Patients with CIPN (CIPN-R-ODS) European Organization for Research & Treatment in Cancer Quality of Life Quest – CIPN 20 Item (EORTC QLQ-CIPN 20) Patient Neurotoxicity Questionnaire (PNQ Taxanes, Cisplatin and Carboplatin version) Modified Total Neuropathy Score (mTNS) Total Neuropathy Score, clinical version (TNSc) 5-item reduced Total Neuropathy Score (TNSr 5-item) Peripheral Neuropathy Scale (PNS) Scale for Chemotherapy-induced Neurotoxicity (SCIN) 	“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.”

Fisher, M., Lee, J., Davies, C., Geyer, H., Colon, G., Pfalzer, L. ⁹	BREAST CANCER: <u>Functional Mobility</u>	Type: Systematic Review Search Method: Google Scholar, Ovid, PubMed/Medline, CINAHL, Sports Discus, Web of Science, Cochrane Review, and PEDro databases Studies: 819 articles found, 211 included in this review Criteria: <ul style="list-style-type: none">• Studies after 1995• Clinically feasible methods• Performed on adults• Published in English	Findings: A total of 11 measures recommended for clinical use Ratings 4 Highly recommended: <ul style="list-style-type: none">• 6 minute walk test• Timed Up and go 3 Recommended for clinical use <ul style="list-style-type: none">• 2-Minute walk test• 12- Minute Walk Tests• 10-Meter Walk test• 5 Times Sit to Stand• Short Performance Physical Battery• Physical Battery for Patients with Cancer• Functional Independence Measure for Patients with Cancer• Functional Independence Measure (FIM)• Assessment of Life Habits; and Activity Measure for Post-acute Care	“Many tools are available to assess upper extremity and overall functional mobility skills in women treated for breast cancer. There are currently no tools recommended that assess community participation.”
Perdomo, M., Davies, C., Levenhagen, K., Ryans K. ¹⁷	BREAST CANCER: <u>Secondary Lymphedema</u>	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: <ul style="list-style-type: none">• Upper extremity• Secondary lymphedema• Female adults• Breast neoplasm• 2001- May 2012• Research prior to 2001 was included if psychometric properties have not been updated	Findings: The Task Force recommends three measures due to good reliability, validity, and clinical utility. Ratings: 4 Highly recommended : <ul style="list-style-type: none">• Circumferential measurement• Water displacement• Bioelectrical impedance spectroscopy (BIS) 2A Unable to Recommend at this time due to limited evidence: <ul style="list-style-type: none">• Tonometry• Perometry• Lymphedema Breast Cancer Questionnaire (LBCQ) self-report tool• Visual Analog Scale	“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.”
Price, W., Doherty, D., Adams, A. ¹⁹	BREAST CANCER: <u>Cancer related fatigue</u>	Type: Systematic Review Search Method: CINAHL, PEDro, PubMed, Medline, Cochrane, First Search, Science Direct, Google Scholar, Hooked on Evidence, Web of Science, Scopus, and Web of Knowledge. Studies: 497 articles reviewed Criteria: <ul style="list-style-type: none">• From 2002-2012• Written in English	Findings: Only 3 measurement tools met the criteria to be classified as highly recommended Ratings: 4 Highly Recommended: <ul style="list-style-type: none">• Brief Fatigue Inventory• Functional Assessment of Cancer Therapy- Breast cancer subscale• Multi-dimensional Fatigue Symptom Inventory Short Form	“Further studies are warranted to consider the applicability of one or multidimensional measurement tools for screening versus evaluation of CRF.”
Davies, C., Ryans, K., Levenhagen, K., Perdomo, M. ²	BREAST CANCER: <u>Quality of Life and Functional Outcome Measures for Secondary Lymphedema</u>	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: 96 articles reviewed Criteria: <ul style="list-style-type: none">• Upper extremity• Secondary Lymphedema• Female adults• Breast neoplasm• 2001- May 2012• Research prior to 2001 was included if psychometric properties has not been updated	Ratings: The task force highly recommends two measures based on their psychometric properties and clinical utility Ratings: 4 Highly Recommended: <ul style="list-style-type: none">• The Functional Assessment of Cancer Therapy – Breast (FACT-B+4)• Disability of Arm Shoulder and Hand (DASH) questionnaire 2A Unable to recommend at this time <ul style="list-style-type: none">• Lymphedema Functioning Disability and Health Questionnaire (Lymph –ICF)• Upper Limb Lymphedema Measure (ULL-27) 1 Not Recommended <ul style="list-style-type: none">• The Lymphedema Quality of Life Measure for Limb (LYMQOL)	“The Breast Cancer EDGE Task Force recommends the FACT-B+4 and DASH questionnaires to assess the quality of life and function in patients with BCRL. The Lymph-ICF and ULL-27 and LYMQOL tools cannot be recommended at this time. Further research is recommended to determine reliability, validity, and clinical utility of these outcome measures.”

Harrington, S., Gilchrist, L., Sander, A. ¹¹	BREAST CANCER: <u>Pain</u>	Type: Systematic Review Search Method: PubMed, PsycINFO Studies: 1120 articles reviewed Criteria: <ul style="list-style-type: none">April 6, 2012- June 1, 2013	Findings: Six measures were highly recommended by the task force for use in the breast cancer population. Ratings: 4 Highly Recommended: <ul style="list-style-type: none">Visual Analog ScaleNumeric Rating ScalePressure Pain ThresholdMcGill Pain QuestionnaireMcGill Pain Questionnaire – Short FormBrief Pain Inventory and Brief Pain Inventory – Short Form		“A variety of outcome measures were used to measure pain in women diagnosed with breast cancer. When assessing pain in women with breast cancer, researchers and clinicians need to determine whether a unidimensional or multidimensional tool is most appropriate as well as whether the tool has strong psychometric properties.”
Fisher, M., Davies, C., Beuthin, C., Colon, G., Zoll, B., Pfalzer, L. ⁶	BREAST CANCER: <u>Strength and Muscular Endurance</u>	Type: Systematic Review Search Method: Web of Science, Pubmed/Medline, CINAHL, Ovid, Google Scholar, Sports Discus, Cochrane Review, PEDro, and Academic Search Studies: 874 articles found, 22 were included in this review Criteria: <ul style="list-style-type: none">Reported psychometric propertiesClinically feasible methodsAdults (preferably female)Published in EnglishPublication dates after 1/1/1995	Findings: The use of hand held dynamometry is recommended in muscle strength testing Ratings: 4 Highly Recommended: <ul style="list-style-type: none">None 3 Recommended for clinical use <ul style="list-style-type: none">Hand grip strength and Hand Held Dynamometry 2B Unable to Recommend at this time <ul style="list-style-type: none">Manual muscle test and one repetition maximum 2A Unable to Recommend at this time <ul style="list-style-type: none">Muscular endurance testing		“Utilizing objective dynamometry for hand grip and muscle strength testing provides precise measurement to assess baseline status and monitor change among women treated for breast cancer.”
Fisher, M Levangie, P. ⁷	BREAST CANCER: <u>Scapular Assessment</u>	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: <ul style="list-style-type: none">Clinically feasible test of scapular position or functionPsychometric properties reportedPublished 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: 4 highly Recommended: <ul style="list-style-type: none">None 3 Recommended for clinical use: <ul style="list-style-type: none">Dynamic Motion Assessment		“Measurement of scapular motion remains a challenge and reliable and valid measures must precede further research into scapular problems among survivors of breast cancer.”
Miale, S., Harrington, S., Kendig, T. ¹⁶	BREAST CANCER: <u>Upper Extremity Function</u>	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: <ul style="list-style-type: none">DASHSPADISRQPSS 3 Recommended: <ul style="list-style-type: none">QuickDASH 2B Unable to Recommend: <ul style="list-style-type: none">Upper limb disabilityAmerican Shoulder and Elbow Surgeons (ASES)Constant Shoulder ScoreFlexilevel Scale of Shoulder Function (FLEX-SF)Shoulder Disability Questionnaire – United Kingdom (SDQUK)	2B Unable to Recommend (continued): <ul style="list-style-type: none">Simple Shoulder Test (SST)Upper Limb Functional Index (ULFI)Oxford Shoulder Score (OSS) 2A Unable to Recommend: <ul style="list-style-type: none">10 Questions by WingateModified Behavioral Rating for Breast CancerShoulder Disability Questionnaire- Netherlands (SDQ-NL) 1 Not Recommended: <ul style="list-style-type: none">Functional Impairment Test – Hand, and Neck/Shoulder/Arm (FIT-HaNSA)Kwan’s Shoulder Problem Scale (KAPS)Mobility Activities MeasureUCLA Shoulder ScaleUpper Extremity Functional Scale (UEFS)	“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.”
Perdomo, M., Sebeliski, C., Davies, C. ¹⁸	BREAST CANCER: <u>Shoulder and Glenohumeral Outcome Measures</u>	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: <ul style="list-style-type: none">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: <ul style="list-style-type: none">Goniometry, passive range of motion 3 Recommended:		“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.”

			<ul style="list-style-type: none"> • Goniometry, active range of motion • Inclinator, active and passive ranges of motion • Assessment of “stiffness” at GHJ • Pectoralis major muscle length assessment <p>2B Unable to Recommend:</p> <ul style="list-style-type: none"> • Passive range of motion measurements to determine a capsular pattern of GHJ • Assessment of end feel based on Cyriax continuum at the GHJ <p>1 Not recommended:</p> <ul style="list-style-type: none"> • Latissimus dorsi muscle length assessment test • Shoulder internal rotation assessment • Shoulder external rotation assessment • Pectoralis minor muscle assessment • 1 Latissimus dorsi muscle length assessment • Supine pectoralis minor muscle test 	
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Pediatric Cancer Outcomes

Authors	Diagnosis/Measures	Type, Search method, number of studies identified/reviewed, study criteria	Findings/ EDGE Ratings	Conclusions and Recommendations
Miale, S; Harrington, S; Brown, K; Braswell, A; Cannoy, J; Krisch, N; Rock, K. ²⁷	OUTCOME MEASURES for Pain in Children	<p>Type: Systematic Review Search Method: MEDLINE, CINAHL, SCOPUS Studies: 956 articles were found, 270 articles were reviewed, 17 measures selected further assessment</p> <p>Criteria:</p> <ul style="list-style-type: none"> • Written in the English language • A measure of pain was administered to a child or an adolescent (birth to 18 years) • The individual had a diagnosis of cancer 	<p>Findings: Of the 17 measures reviewed, 4 were recommended to assess pain with kids with cancer.</p> <p>Ratings:</p> <p>4 Highly Recommended:</p> <ul style="list-style-type: none"> • The Wong-Baker FACES Pain Rating Scale <p>3 Recommended:</p> <ul style="list-style-type: none"> • The Oucher Pain Scale • Adolescent Pediatric Pain Tool • Pieces of Hurt Assessment Tool Puler Chip Tool <p>2 Reasonable to Use:</p> <ul style="list-style-type: none"> • The Brief Pain Inventory • The COMFORT Behavior Scale • The Visual Analog Scale • Numeric Rating Scale • The Faces Pain Scale-Revised and the Pediatric Pain Questionnaire <p>1 Not recommended:</p> <ul style="list-style-type: none"> • The Preschool and Adolescent Body Outlines • The Color Analogue Scale • The Rainbow Pain Scale • The Faces, Legs, Activity, Cry and Consolability (FLACC) Behavioral Pain Assessment Scale • The Pain Squad APP for the iPhone or iPad • The McGill Pain Questionnaire • Iowa Pain Thermometer 	<p>“This Task Force has highly recommended the use of the WBF Pain Rating Scale, and has recommended the use of the Oucher Pain Scale, the Adolescent Pediatric Pain Tool, and the Pieces of Hurt Pain Assessment Tool/Poker Chip Tool to measure pain in children with cancer.”²⁷</p>

Outcomes by Condition

Authors	Diagnosis/ Measures	Type, Search method, number of studies identified/reviewed, study criteria	Findings/ EDGE Ratings	Conclusions and Recommendations
Alappattu, M, Harrington, S, Hill, A, Roscow, A, Jeffrey, A. ²⁴	SEXUAL DYSFUNCTION: Patient-Reported Measures	<p>Type: Systematic Review Search Method: MEDLINE, CINAHL, PsycINFO Studies: 1118 articles were reviewed, 21 measures selected for analysis Criteria:</p> <ul style="list-style-type: none"> • Published in English • Related to sexual function • From 1995 to August 2015 	<p>Findings: Five of the 21 measures had satisfactory psychometric properties and were recommended.</p> <p>Ratings:</p> <p>4 Highly Recommended:</p> <ul style="list-style-type: none"> • 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) <p>3 Recommended:</p> <ul style="list-style-type: none"> • Sexual Interest and Desire Inventory <p>2A Unable to Recommend:</p> <ul style="list-style-type: none"> • 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 <p>2B Unable to Recommend:</p> <ul style="list-style-type: none"> • Female Sexual Distress Scale <p>1 Not recommended:</p> <ul style="list-style-type: none"> • 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 	<p>“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.”</p>
Harrington, S, Gilchrist, L, Lee, J, Westlake, F, Baker, A. ²⁵	CLINICAL MEASURES FOR PAIN	<p>Type: Systematic Review Search Method: MEDLINE, CINAHL, PsycINFO Studies: 1164 articles identified, 494 were reviewed and 22 measures selected for analysis Criteria:</p> <ul style="list-style-type: none"> • Available in English • Pain measures were used in individuals with cancer • Published from 2005 to 2016 • Used clinically feasible methods • Had reported psychometric properties 	<p>Findings: Seven of the 22 pain measures demonstrated satisfactory psychometric properties and clinical utility and are thereby recommended for clinical and research use in adults with a diagnosis of cancer.</p> <p>Ratings:</p> <p>4 Highly Recommended:</p> <ul style="list-style-type: none"> • McGill Pain Questionnaire–Short Form • Numeric Rating Scale • Visual Analog Scale <p>3 Recommended:</p> <ul style="list-style-type: none"> • Brief Pain Inventory • Brief Pain Inventory–Short Form • McGill Pain Questionnaire • Pain Disability Index <p>2 Recommended as reasonable to use (there are limited studies using these measures in the cancer population):</p> <ul style="list-style-type: none"> • Faces Pain Scale • Leeds Assessment of Neuropathic Signs & Symptoms • Neuropathic Pain Scale • Neuropathic Pain Scale for Chemotherapy-induced Neuropathy • Pain-Detect Questionnaire • Pain Global Rating of Improvement • Pressure Pain Threshold • USCF Oral Cancer Pain Questionnaire • Pain Thermometer • Alberta Breakthrough Pain Assessment Tool • Patient Pain Questionnaire <p>1 Not recommended:</p> <ul style="list-style-type: none"> • American Pain Society Patient Outcome Questionnaire • Pain Quality Assessment Scale • West Haven Yale Multidimensional Pain Inventory 	<p>“Researchers and clinicians are encouraged to review the Task Force recommendations, as well as each specific outcome measure, for more extensive information.”</p>

<p>Fisher, M, Davies, C, Lacy, H, Doherty, D.²⁶</p>	<p>MEASURES OF CANCER-RELATED FATIGUE</p>	<p>Type: Systematic Review Search Method: Google Scholar, PubMed/MEDLINE, CINAHL, EMBASE and PEDro Studies: 626 identified, 136 reviewed Criteria:</p> <ul style="list-style-type: none"> Published in English Described tools used to screen for or assess CRF Reported psychometric properties of the tools used to screen or assess CRF Presented clinically feasible methods for the screening and assessment of CRF Included the adult population (≥18 years) Published between Jan1, 1997 – Aug 2017 	<p>Findings: Recommendations were made for 14 questionnaires: five unidimensional and nine multidimensional questionnaires are recommended by the Oncology EDGE Task Force.</p> <p>Ratings: Unidimensional Questionnaires 4 Highly Recommended:</p> <ul style="list-style-type: none"> Modified Brief Fatigue Inventory (mBFI) Cancer-Related Fatigue Distress Scale 10-point Rating Scale for Fatigue <p>3 Recommended:</p> <ul style="list-style-type: none"> MD Anderson Symptom Inventory Wu Cancer Fatigue Scale <p>Ratings: Multidimensional Questionnaires 4 Highly Recommended:</p> <ul style="list-style-type: none"> Multidimensional Fatigue Symptom Inventory <p>3 Recommended:</p> <ul style="list-style-type: none"> Bidimensional Fatigue Scale Cancer Fatigue Scale Fatigue Symptoms Inventory Multidimensional Fatigue Inventory Piper/Quick Piper Profile of Mood States Patient Reported Outcome Measure Information System (PROMIS) Cancer Fatigue Short Form Schwartz Cancer Fatigue Scale 	<p>2 Recommended as reasonable to use:</p> <ul style="list-style-type: none"> Four-Item Fatigue Scale Lee Fatigue Scale Visual Analog Scale for Fatigue Zung One-Item Self-Rating Depression Scale <p>1 Not recommended:</p> <ul style="list-style-type: none"> Multidimensional Assessment of Fatigue Fatigue Pictogram General Fatigue Scale 	<p>“The 10-point Numeric Rating Scale for Fatigue is best as a screening tool, whereas the Multidimensional Fatigue Symptom Inventory is a highly recommended multidimensional tool. Ease of screening can promote referral for interventions, whereas thorough assessment drives appropriate interventions.”</p>
<p>Huang, M, Hile, E, Croarkin, E, Wampler-Kuhn, M, Blackwood, J, Colon, G, Pfalzer, L.²⁸</p>	<p>MEASURES OF BALANCE IN ADULT CANCER SURVIVORS</p>	<p>Type: Systematic Review Search Method: Databases included PubMed/Ovid MEDLINE, CINAHL, EMBASE, and SCOPUS. Search terms included (“cancer” or “neoplasm”) AND (“balance” or “postural balance”) AND (“physical therapy,” “occupational therapy,” or “rehabilitation”) AND (“reliability,” “validity,” or “psychometrics,” “measures,” “measurements,” “surveys,” or “questionnaires” Studies: 187 identified, 54 retained Criteria:</p> <ul style="list-style-type: none"> Published in English Study designs were randomized controlled trials, controlled clinical trials, experimental studies, and observational studies Participants were adults older than 18 years, with confirmed diagnoses of any cancer Tests or measures were used to assess balance impairments or fall risk, psychometric properties of the measures were reported, or balance or fall risk was the primary outcome of the measures Published between January 1, 2008, and November 1, 2018. 	<p>Findings:</p> <p>Ratings: 4 Highly Recommended:</p> <ul style="list-style-type: none"> The Fullerton Advanced Balance Scale Usual and fast gait speed <p>3 Recommended:</p> <ul style="list-style-type: none"> Balance Evaluation Systems Test Timed Up and Go Five Times Sit to Stand 	<p>2: Recommended as reasonable to use:</p> <ul style="list-style-type: none"> 30-Second Sit to Stand Activities-specific Balance Confidence Scale Berg Balance Scale Dizziness Handicap Inventory Functional Reach Test Modified Clinical Test of Sensory Interaction on Balance Short Physical Performance Battery Single leg stance Tinetti Performance-Oriented Mobility Assessment <p>1: Not Recommended:</p> <ul style="list-style-type: none"> Balance Efficacy Scale Center-of-pressure measures Sensory Organization Test Sharpened Romberg 	<p>“We recommend 5 balance measures for use in adult cancer survivors. Future research with existing balance measures should establish norms, responsiveness, and predictive validity for fall risk, while expanding to focus on imbalance in midlife survivors. Patient-reported outcome measures are needed for cancer-related imbalance.”</p>

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