



Association of Chartered Physiotherapists in
Oncology and Palliative Care
Research Directory – Issue 7: Winter 2021

Welcome to the seventh edition of the ACPOPC research directory. Each year we collate a list of recent research publications that are relevant to physiotherapy in oncology and palliative care. This year's edition seeks to provide the best summary possible of our growing evidence base as we finish 2021. This edition focuses on systematic reviews, narrative reviews and meta-analyses. A short summary is provided to help pique your interest and get you downloading! There is a new section signposting you to guidelines and white papers relevant to prehabilitation which is a growing area into which many of our members are expanding. The synthesis of a large number of trials will hopefully provide you with further references within your specialty to read, reflect and think about our evolving practice and services.

We would recommend that you read these articles critically and consider their application to your practice. These articles have not been critically reviewed by the ACPOPC Committee.

For guidance on critical review of articles click this link for the [CSP's guidance](#). The articles have been divided into sections to help members find those most relevant to them. A clickable link to each articles abstract is at the end of the citation, those with free full texts are labelled with [Open Access](#) hyperlinks. If you require access to an article which does not provide free content do contact the research officer, as we may be able to source it for you. You may find it helpful to pick some of the articles for journal clubs, either with other therapists at your place of work or your ACPOPC regional network.

Contributing to the growing evidence base should be part of all ACPOPC members practice and congratulations to those publishing within this last year. If anyone has work or service development projects that you would like to share with members, please consider submitting an article to the ACPOPC journal, you can find [guidance](#) on our website. The next journal edition will be Autumn 2022 so if you would like to know more or discuss your potential contribution, please do get in touch.

If you have any suggestions of research or areas of evolving practice that you feel as ACPOPC members should be included please get in touch. Share with us how you use the list or your favourite article by emailing or tweeting us @ACPOPC.

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- **General Palliative Care**

Physical function predicts mortality in patients with cancer: a systematic review and meta-analysis of observational studies. Nakano et al. Support Care Cancer. 2021 Oct;29(10):5623-5634
This systematic review and meta-analysis demonstrated in detail with review of many common physiotherapy outcome measures (grip strength, walking speed etc) that physical function predicted mortality in patients with cancer. Furthermore, physical function outcomes in patients aged 80 years and above reflected a higher mortality [Open access](#)

Role of Physiotherapy in Hospice Care of Patients with Advanced Cancer: A Systematic Review. Vira et al. Am J Hosp Palliat Care. 2021 May;38(5):503-511
Review including 9 studies and a structured exercise protocol, massage therapy, TENS and compression bandaging are useful in alleviating the symptoms experienced by patients with advanced cancer in hospice care. The reduced symptom burden has reflected as an improvement in their quality of life. However, there is a further need for high quality studies to strengthen the findings of this review. [Abstract Access](#)

Pre-treatment expectations of patients with spinal metastases: what do we know and what can we learn from other disciplines? A systematic review of qualitative studies. Gal R et al. BMC Cancer. 2020 Dec 9;20(1):1212.
Review concludes patients tend to have overly optimistic expectations regarding pain and symptom relief, recovery and prognosis following spinal surgery or advanced cancer care. Pretreatment consultation about the expected pain and symptom relief, recovery and prognosis may improve understanding of prognosis, and promote and manage expectations, which, in turn, may lead to better perceived outcomes. [Open Access](#)

Music Therapy Interventions in Palliative Care: A Systematic Review. Pérez-Eizaguirre M and Vergara-Moragues E. J Palliat Care. 2021 Jul;36(3):194-205.
The purpose of this systematic review is to analyze interventions with music therapy and new developments in this area in the field of palliative care. [Abstract Access](#)

Acupuncture for Breathlessness in Advanced Diseases: A Systematic Review and Meta-analysis. von Trott P et al. J Pain Symptom Manage. 2020 Feb;59(2):327-338
The objective of this study was to identify and examine the evidence of acupuncture on breathlessness in advanced malignant and nonmalignant diseases. [Abstract Access](#)

Efficacy of the complementary therapies in the management of cancer pain in palliative care: A systematic review. Lopes-Júnior L Cet al. Rev Lat Am Enfermagem. 2020 Sep 30;28:e3377.
Objective of review to synthesize the knowledge and to critically evaluate the evidences arising from randomized controlled trials on the efficacy of the complementary therapies in the management of cancer pain in adult patients with cancer in palliative care [Open Access](#)

Palliative Care and the Management of Common Distressing Symptoms in Advanced Cancer: Pain, Breathlessness, Nausea and Vomiting, and Fatigue. Henson LA et al. J Clin Oncol. 2020 Mar 20;38(9):905-914.
This article presents a summary of the literature for the use of symptom assessment tools and reviews the management of four common and distressing symptoms commonly experienced by



people with advanced cancer: pain, breathlessness, nausea and vomiting, and fatigue. [Open Access](#)

- **Exercise in Palliative Care**

Physical Activity for Individuals Living with Advanced Cancer: Evidence and Recommendations.

Capozzi LC, et al. *Semin Oncol Nurs*. 2021 Aug;37(4):151170

Review aims to provide health and fitness professionals with screening, triage, prescription, and physical activity recommendations to better serve individuals living with advanced cancer.

Although there are no clear activity guidelines or recommendations for this population, patients must avoid inactivity to gain health benefits and minimise deconditioning. [Abstract access](#)

Exercise for individuals with bone metastases: A systematic review.

Weller S et al *Crit Rev Oncol Hematol*. 2021 Oct;166:103-433

This systematic review summarizes the safety, feasibility and efficacy of exercise in controlled trials that include individuals with bone metastases. Conclusions report exercise appears safe and feasible for individuals with bone metastases when it includes an element of supervised exercise instruction. [Open Access](#)

Spinal Stabilization Exercises for Cancer Patients with Spinal Metastases of High Fracture Risk: Feasibility of the DISPO-II Training Program.

Rosenberger F et al. *Cancers (Basel)*. 2021 Jan 8;13(2):201

This original research follows on from research where exercise concomitant to radiotherapy for stable spinal metastases was demonstrated to increase bone density and reduce pain. In the DISPO-II study, the feasibility of exercise concomitant to radiotherapy for unstable spinal was investigated and they provide a detailed analysis of the training program with photographs and full explanation of exercise prescription. [Open Access](#)

A Systematic Review of the Safety, Feasibility and Benefits of Exercise for Patients with Advanced Cancer. De Lazzari N et al. *Cancers* 2021, 13, 4478

The aim of this systematic review was to assess the safety, feasibility, and benefits of exercise for patients with advanced cancer. Based on the results of 14 included exercise intervention studies, they conclude that exercise is safe and feasible, seems to improve physical performance, and may lower symptoms like chronic tiredness. Early integration of exercise for advanced cancer patients should be considered as usual care as a supportive strategy. [Open Access](#)

Physical activity and mortality in cancer survivors: a systematic review and meta-analysis.

Friedenreich CM et al. *JNCI Cancer Spectr* 2020, 4(1):pkz080.

Concluded higher prediagnosis and post diagnosis levels of PA were associated with improved survival outcomes for at least 11 cancer types, providing support for global promotion of PA guidelines following cancer [Open Access](#)

Physical activity recommendations for cancer survivors living with bony metastases: views of oncologic healthcare providers. Adams et al. *J Cancer Surviv* 15, 414–417 (2021)

The purpose of this survey of oncologic healthcare providers (OHPs) is to understand their attitude towards physical activity for individuals living with bony metastases and to assess requirements to confidently provide physical activity recommendations. [Abstract Access](#)

- **General Non-specific or Multi-site Cancer**

Effectiveness of complementary therapies in cancer patients: a systematic review.

Guerra-Martin MD. International Journal of Environmental Research & Public Health 2021;18(3):1017.

The findings reveal some effective complementary therapies: auriculotherapy and acupuncture, laser moxibustion, hypnosis, Ayurveda, electroacupuncture, progressive muscle relaxation and guided imagery, yoga, phytotherapy, music therapy and traditional Chinese medicine. On the other hand, electroacupuncture, laser moxibustion and traditional Chinese medicine presented adverse effects, and kinesiology did not show effectiveness. [Open Access](#)

- **Exercise in Non-specific or Multi-site Cancer**

High-intensity exercise to improve cardiorespiratory fitness in cancer patients and survivors: a systematic review and meta-analysis.

Lavin-Perez AM. Scandinavian Journal of Medicine & Science in Sports 2021;31(2):265-294.

Results showed that higher effects could be achieved in: patients starting to exercise before treatment, interventions longer than eight weeks, programs including exclusively cardiovascular training and with a high-intensity part of session duration of at least 20 minutes. [Open Access](#)

Home-based aerobic and resistance exercise interventions in cancer patients and survivors: a systematic review. Batalik L. Cancers 2021;13(8):1915.

Evidence is lacking in the field of HB exercise interventions in the population of cancer survivors. However, all studies were limited in terms of methodology and reporting of results. Nevertheless, the evidence in this new area, despite the methodological limitations of studies, suggests that HB exercise interventions are feasible, and may provide physiological and psychological benefits for cancer survivors during the rehabilitation period. [Open Access](#)

A systematic review summarizing the effect of health care provider-delivered physical activity interventions on physical activity behaviour in cancer survivors.

Brunet J. Patient Education and Counseling 2020;103(7):1287-1301.

Conclusions: Health care provider-delivered physical activity interventions may increase cancer survivors' physical activity behaviour. However, increases may depend on administering additional behaviour change techniques and resources. Given the limited number of studies, degree of heterogeneity, and high level of bias observed, more research is needed to ascertain the effect of provider-delivered interventions on survivors' physical activity behaviour and to compare different interventions. [Abstract](#)

The effectiveness of sarcopenia interventions for cancer patients receiving chemotherapy: a systematic review and meta-analysis. Jang MK. Cancer Nursing 2021

This review aimed to provide an overview of current interventions for sarcopenia in cancer patients receiving chemotherapy and to assess effective interventions. Conclusions: Early implementation of a resistance exercise intervention or a combined exercise and nutrition intervention is a promising strategy for avoiding muscle mass loss during chemotherapy.

Additional evidence-based assessments of interventions for secondary sarcopenia are needed to identify the most effective approach. [Abstract](#)

Preoperative high intensity interval training for oncological resections: a systematic review and meta-analysis. Smyth E. *Surgical Oncology* 2021;38:101620.

This review sought to determine if preoperative high-intensity interval training (HIIT) improves preoperative fitness in patients scheduled for oncologic resection, and whether postoperative complications are impacted. Conclusions: Results demonstrate there is insufficient evidence to support HIIT as a method of improving preoperative fitness prior to resection. Further work is needed to determine if specific HIIT parameters can be adapted to improve efficacy over short time-frames. [Abstract](#)

A Systematic Review of Rehabilitation and Exercise Recommendations in Oncology Guidelines

Stout N et al. *A CANCER J CLIN* 2021;71:149–175

This report was developed as a part of the World Health Organization (WHO) Rehabilitation 2030 initiative to identify rehabilitation-specific recommendations in guidelines for oncology care. A systematic review of guidelines was conducted. Findings identify guidelines that recommend rehabilitation services across many cancer types and for various consequences of cancer treatment signifying that rehabilitation is a recognized component of oncology care. [Open Access](#)

Association of six-minute walk test distance with postoperative complications in non-cardiac surgery: a secondary analysis of a multicentre prospective cohort study.

Ramos RJ ET AL. *Can J Anaesth.* 2021 Apr;68(4):514-529.

Conclusion highlights preoperative 6MWT distance had a modest association with moderate or severe complications after inpatient non-cardiac surgery. Further studies are needed to determine the optimal role of the 6MWT as an objective exercise test for informing preoperative risk stratification. [Open Access](#)

Exercise for cancer cachexia in adults.

Grande AJ et al *Cochrane Database Syst Rev.* 2021 Mar 18;3(3):CD010804.

Cancer cachexia is a multifactorial syndrome characterised by an ongoing loss of skeletal muscle mass, with or without a loss of fat mass, leading to progressive functional impairment. This is the first update of an original Cochrane Review published in Issue 11, 2014, which now includes four studies. Authors are uncertain of the effectiveness, acceptability and safety of exercise for adults with cancer cachexia. Further high-quality randomised controlled trials are still required to test exercise alone or as part of a multimodal intervention to improve people's well-being throughout all phases of cancer care. [Open Access](#)

Muscle hypertrophy in cancer patients and survivors via strength training. A meta-analysis and meta-regression. Koepfel et al. *Crit Rev Oncol Hematol.* 2021 Jul;163:103371.

Analysis highlights Resistance training counteracts impaired anabolic signal pathways. Unsupervised resistance training shows no increase in muscle mass. Expert supervision appears to be crucial to achieve muscle hypertrophy. [Open Access](#)

Effects of and Lessons Learned from an Internet-Based Physical Activity Support Program (with and without Physiotherapist Telephone Counselling) on Physical Activity Levels of Breast and Prostate Cancer Survivors: The PABLO Randomized Controlled Trial. Van De Weil et al. *Cancers* 2021, 13, 3665



Authors developed an Internet-based physical activity (PA) support program (IPAS), which is embedded in a patient portal. Evaluated the effectiveness and costs of IPAS alone (online only) or IPAS combined with physiotherapist telephone counselling (blended care), compared to a control group. [Open access](#)

- **Breast Cancer**

Physical activity in the context of advanced breast cancer: an integrative review.

Geng Z. *Journal of Advanced Nursing* 2021;77(5):2119-2143.

Results propose tailored, supervised, group-based PA programmes are in urgent need for ABC patients. Clinical professionals should manage more feasible and safer PA interventions to help improve patients' overall health. More research with rigorous methodology design is warranted to explore PA's effect on long-term health outcomes. [Abstract Access](#)

Different methods of physical training applied to women breast cancer survivors: a systematic review. Schutz S. *Frontiers in Physiology* 2021

Conclusions: Physical training performed at a moderate or high intensity (aerobic or anaerobic) can reduce fatigue, improve quality of life, improve sleep quality, and increase bone mineral density in women survivors of breast cancer. [Open Access](#)

Effect of myofascial therapy on pain and functionality of the upper extremities in breast cancer survivors: a systematic review and meta-analysis.

Lara-Palomo IC. *International Journal of Environmental Research & Public Health* 2021;18(9):4420.

The purpose was to analyze the effectiveness of myofascial therapy on musculoskeletal pain and functionality of the upper extremities in female breast cancer survivors, and to evaluate changes in range of motion, quality of life and mood. CONCLUSION: Although we found greater overall effects in support of myofascial therapy than other control groups/types of interventions, the subgroup analysis revealed inconsistent results supporting myofascial therapy applied to breast cancer survivors. [Open Access](#)

Aquatic therapy reduces pain and fatigue in breast cancer survivors: a systematic review.

Barbagelata K. *Rehabilitation Oncology* 2021;39(3):E35-E41.

The purpose of this systematic review was to determine whether aquatic therapy reduced pain and CRF among people with breast cancer and to identify any elements of aquatic therapy associated with those effects. CONCLUSION(S): Aquatic therapy is recommended as an intervention for the impairments of pain and CRF associated with breast cancer. Aquatic therapy is safe and feasible for this population. [Abstract Access](#)

Effects of home-based walking on cancer-related fatigue in patients with breast cancer: a meta-analysis of randomized controlled trials.

Yuan Y. *Archives of Physical Medicine and Rehabilitation* 2021

This study was designed to critically evaluate the effect of home-based walking on cancer-related fatigue (CRF) in patients with breast cancer receiving anti-cancer treatment. CONCLUSIONS: Home-based walking can be considered as an alternative therapy for relieving CRF in breast cancer patients undergoing anti-cancer treatment. [Abstract](#)



Resistance training in breast cancer patients undergoing primary treatment: a systematic review and meta-regression of exercise dosage. Lopez P. Breast Cancer 2021;28(1):16-24.

To examine the resistance training dose–response (i.e., volume and intensity) in breast cancer patients undergoing primary treatment. Conclusion: Low volume resistance training may be a suitable recommendation for patients undergoing primary treatment producing superior benefits for muscle strength compared to higher volume training, regardless of training intensity. It may provide a conservative and appropriate approach, allowing gradual progression and modification throughout the program. [Abstract](#)

The effect of exercise training on serum glucose and lipid profiles in patients with breast cancer: a systematic review and meta-analysis of randomized clinical trials.

Abbasi F. Journal of Physical Activity & Health 2021;18(7):863-877.

Conclusion: Current meta-analysis demonstrated significant reductions in serum levels of insulin and insulin resistance following exercise training. However, exercise training had no significant effect on serum levels of fasting plasma glucose, total cholesterol, triglyceride, high-density lipoprotein, and low-density lipoprotein. Further high-quality studies are needed to shed light on this issue. [Abstract](#)

A meta-analysis: intervention effect of mind-body exercise on relieving cancer-related fatigue in breast cancer patients. Liu C. Evidence-Based Complementary & Alternative Medicine 2021

The aim of this meta-analysis is to evaluate the intervention effect of mind-body exercise on cancer-related fatigue in breast cancer patients. CONCLUSION: Doing Tai Chi for over 40 minutes each time with an exercise cycle of ≤ 6 weeks can improve cancer-related fatigue in breast cancer patients more significantly. Sensitivity analysis shows that the combined effect results of the meta-analysis were relatively stable. Mind-body exercise can effectively improve cancer-related fatigue in breast cancer patients. [Open Access](#)

Exercise effects on fatigue in breast cancer survivors after treatments: a systematic review and meta-analysis. Lin H-P. International Journal of Nursing Practice 2021

Aim: To explore the effects of exercise interventions by type, duration and intensity of exercise for fatigue in breast cancer survivors who had completed their treatment. Conclusion: Our study suggested that exercise interventions can reduce fatigue for this group of cancer survivors. The duration and intensity of exercise intervention could be prescribed for this specific group of cancer patients as a basic requirement to handle their reported fatigue. [Abstract](#)

Efficacy of physical therapy interventions on quality of life and upper quadrant pain severity in women with post-mastectomy pain syndrome: a systematic review and meta-analysis.

Kannan P. Quality of Life Research 2021

Purpose of review to determine the efficacy of physical therapy interventions on quality of life (QoL) and pain severity in post-mastectomy pain syndrome (PMPS). [Abstract](#)

Effect of perioperative pain neuroscience education in patients with post-mastectomy persistent pain: a retrospective, propensity score-matched study. Manfuku, M et al. Support Care Cancer 29, 5351–5359 (2021).

This study was aimed to examine whether Pain neuroscience education is more effective than biomedical education for persistent post-mastectomy pain [Abstract Access](#)



Rehabilitation interventions to support return to work for women with breast cancer: a systematic review and meta-analysis. Algeo et al. BMC Cancer 21, 895 (2021)

The aim of this systematic review was to examine key characteristics of rehabilitation interventions, and their effectiveness on work outcomes for women with breast cancer, compared to usual care [Open Access](#)

- **Lymphoedema**

Effect of physiotherapy in the prevention and relief of secondary lymphedema in subjects with postoperative breast cancer -- a systematic review of randomised controlled trials.

Naik M. Journal of Clinical and Diagnostic Research 2021;15(5):YE01-YE05.

Conclusion: Physiotherapy interventions like MLD, compression garments, stretching and strengthening, resistance exercises and ROM exercises have a potential effect in the treatment and prevention of secondary lymphoedema. [Abstract Access](#)

Web Axillary Pain Syndrome-Literature Evidence and Novel Rehabilitative Suggestions: A Narrative Review.

Agostini et al. Int J Environ Res Public Health. 2021 Oct 2;18(19):10383

Axillary web syndrome (AWS) is defined as a visible and palpable network of cords in the skin of the axillary cavity that are tensed by shoulder abduction following surgery for breast cancer, causing significant functional limits of the ipsilateral upper limb (UL) and pain. The purpose of this narrative review is to discuss rehabilitation approaches for greater efficacy with respect to pain and novel suggestions including review of links with lymphedema [Open Access](#)

Physical activity level, exercise behavior, barriers, and preferences of patients with breast cancer–related lymphedema. Yildiz Kabak et L. Support Care Cancer 29, 3593–3602 (2021)

Purpose of study to identify physical activity level, exercise behavior, barriers, and preferences in female patients with breast cancer–related lymphedema (BCRL) [Abstract Access](#)

- **Lung Cancer**

Does preoperative pulmonary rehabilitation/physiotherapy improve patient outcomes following lung resection? Bibo L. Interactive Cardiovascular and Thoracic Surgery 2021;32(6):933-937.

We conclude that PRP improves exercise capacity in patients undergoing surgical resection for lung cancer. Moderate quality evidence supports preoperative exercise providing significant reduction in PPCs and hospital LOS. Referral to exercise programmes should be considered in patients awaiting lung resection, particularly those deemed borderline for suitability for surgical resection. [Open access](#)

Effects of preoperative breathing exercise on postoperative outcomes for lung cancer patients undergoing curative intent lung resection: a meta-analysis.

Pu CY. Archives of Physical Medicine and Rehabilitation 2021

Concludes: Preoperative breathing exercises reduced length of stay and postoperative pulmonary complications and pneumonia and potentially improves six-minute walk distance in patients undergoing surgical lung cancer resection. Breathing exercises in combination with aerobic exercise yielded greater reductions in length of stay. Randomized clinical trials are needed to test the feasibility of introducing a preoperative breathing exercise program in this patient population.



Abstract

Feasibility of a novel mixed-nutrient supplement in a multimodal prehabilitation intervention for lung cancer patients awaiting surgery: A randomized controlled pilot trial. Ferreira V, et al.

Int J Surg. 2021 Sep;93:106079

Original research to investigate, in lung cancer patients awaiting elective surgery, the feasibility of delivering a novel four-week multimodal prehabilitation intervention and its effects on preoperative functional capacity and health-related quality of life (HRQoL), compared to standard hospital care. [Abstract Access](#)

• **Gastrointestinal Cancer**

Effect of physiotherapy on vital capacity before major abdominal surgery in cancer patients: a systematic review.

Santek N. Libri Oncologici 2021;49(1):39-47.

We focus on physiotherapy as part of prehabilitation in this review. CONCLUSION: Although exercise therapy has been shown to improve vital capacity and respiratory muscle strength, there was a lack of comparison between different exercises. Evidence from these indirect-comparisons studies indicated that physical activity should be encouraged during the preoperative period before oncologic surgery. [Abstract](#)

Perioperative exercise training for patients with gastrointestinal cancer undergoing surgery: a systematic review and meta-analysis.

Thomsen SN. European Journal of Surgical Oncology 2021

Aim: To evaluate the effects of perioperative exercise training on gastrointestinal cancer-specific mortality, recurrence, and surgical outcomes (postoperative complications, hospitalization, surgical stress) in patients with gastrointestinal cancer. Conclusion: Risk of bias was high or of some concern in all studies, and certainty of evidence very low. The effects of perioperative exercise on cancer-specific and surgical outcomes are unknown due to lack of studies and low certainty evidence. [Abstract](#)

Supporting colorectal cancer survivors using eHealth: a systematic review and framework suggestion. Ayyoubzadeh SM et al. Support Care Cancer. 2020 Aug;28(8):3543-3555.

The present study was conducted to address which types of eHealth supports have been provided to colorectal cancer survivors in the past two decades. [Abstract Access](#)

The effect of trimodal prehabilitation on the physical and psychological health of patients undergoing colorectal surgery: a randomised clinical trial. Fülöp et al. Anaesthesia. 76. (2020)

10.1111/anae.15215.

This study aimed to assess the impact of a 4-week trimodal prehabilitation program on the physical and psychological health of patients waiting for colorectal surgery compared with a control group managed according to enhanced recovery after surgery principles supplemented by nutritional care. [Open Access](#)



- **Head and Neck Cancer**

Guideline:

Salivary Gland Hypofunction and/or Xerostomia Induced by Nonsurgical Cancer Therapies:

ISOO/MASCC/ASCO Guideline .

Mercadante V. Journal of Clinical Oncology: official journal of the American Society of Clinical Oncology 2021

Recommendations from this guidance include offering oral pilocarpine and oral cevimeline (a muscarinic agonist not available in the UK), acupuncture, or transcutaneous electrostimulation for patients with head and neck cancer after they are given radiation therapy. [Open Access](#)

Interventions for trismus in head and neck cancer patients: a systematic review of randomized controlled trials.

Chee S. Integrative Cancer Therapies 2021

CONCLUSION: This review did not convey a clear consensus as to optimal intervention for trismus in HNC patients. A variety of exercise regimens and jaw rehabilitation devices appear to have comparable effectiveness. However, efforts focused on increasing adherence to a particular protocol may positively impact mouth opening measures in head and neck cancer patients. Also, low-level laser therapy and low-intensity ultrasound coupled with exercise may be beneficial for patients with trismus. [Open Access](#)

Exercise and Nutrition Interventions in Patients with Head and Neck Cancer during Curative Treatment: A Systematic Review and Meta-Analysis.

Bye A et al. Nutrients. 2020 Oct 22;12(11):3233. The aim of this meta-analysis was to examine the effects of nutritional and physical exercise interventions and interventions combining these interventions during radiotherapy treatment for patients with head and neck cancer on body composition, objectively measured physical function and nutritional status. [Open Access](#)

- **Prostate, Kidney & Urinary Tract Cancer**

What is the minimal dose for resistance exercise effectiveness in prostate cancer patients?

Systematic review and meta-analysis on patient-reported outcomes.

Lopez P et al. Prostate Cancer Prostatic Dis. 2021 Jun;24(2):465-481.

Concludes low volume resistance exercise undertaken at a moderate-to-high intensity is sufficient to achieve significant fatigue and QoL benefits for men with prostate cancer and also mitigate depression and anxiety symptoms. [Open Access](#)

The Effect of Exercise on Body Composition and Physical Performance in Prostate Cancer Patients Undergoing Androgen Deprivation Therapy (ADT): A Narrative Synthesis.

Logan L et al. Semin Oncol Nurs. 2020 Oct;36(5):151067

This review sought to synthesize evidence examining the effect of exercise on prostate cancer patients undergoing androgen deprivation therapy (ADT). Concluded that resistance training and sport (football) in the form of small sided games (SSGs) played an important role in preserving bone mineral density and lean mass as well as improving muscle strength and physical performance outcomes in men affected by prostate cancer undergoing ADT. [Open Access](#)



The Potential of Prehabilitation in Radical Cystectomy Pathways: Where Are We Now? Jensen B et al. *Semin Oncol Nurs.* 2021 Feb;37(1):151107.

This narrative review aims to update and inform the urological community of the potential of prehabilitation before radical cystectomy. [Open Access](#)

Effect of a brief physical activity-based presentation by a former patient for men treated with radical prostatectomy for prostate cancer: a mixed methods pilot study. Fox et al. *Supportive Care in Cancer* 2021. 29(10):1007/s00520

Authors examined the potential of a single-contact peer-support-based behavioural intervention to promote physical activity engagement in men treated for Prostate cancer [Open Access](#)

- **Paediatric Cancer and Palliative Care**

Living beyond cancer: Adolescent and young adult perspectives on choice of and participation in meaningful occupational roles.

Wallis A. *British Journal of Occupational Therapy* 2021;84(10):628-636.

Whilst it is recognised that cancer may present numerous challenges for the adolescent or young adult during treatment, experiences after this stage as the young person transitions to life without cancer have received little attention. The purpose of this study is to understand the implications of having survived cancer for the young person's choice of, and participation in, meaningful occupational roles. [Abstract](#)

Postural balance in pediatric posterior fossa tumor survivors: Through impairments to rehabilitation possibilities. Dreneva AA et al. *Clin Biomech (Bristol, Avon).* 2020 Jan;71:53-58.

Original research highlights Paediatric posterior fossa tumor survivors showed a decreased postural stability. Cerebellum lesion prevents patients from using visual information for stability. The biofeedback training aimed at enhancing stability was proved to be feasible. [Abstract Access](#)

Physical therapy interventions, other than general physical exercise interventions, in children and adolescents before, during and following treatment for cancer.

Ospina PA et al. *Cochrane Database of Systematic Reviews* 2021, Issue 8

The primary aim of this review was to evaluate the efficacy of physical therapy interventions - with a specific focus on symptom relief and compensation of therapy-related side effects - on the quality of life of children and adolescents diagnosed with cancer. [Open Access](#)

Radiation-Induced Moyamoya Syndrome in Children with Brain Tumors: Case Series and Literature Review. Scala M et al. *World Neurosurg.* 2020 Mar;135:118-129

Review concludes paediatric patients receiving involved field RT for the treatment of brain tumors have an increased risk of developing RIMS. Prompt diagnosis and early surgical revascularization play a pivotal role in decreasing the clinical impact of this complication.

[Abstract Access](#)

Antioxidants to prevent respiratory decline in people with Duchenne muscular dystrophy and progressive respiratory decline. Garegnani L et al. *Cochrane Database of Systematic Reviews* 2021, Issue 11.

Authors concluded Idebenone is the only antioxidant agent tested in RCTs for preventing



respiratory decline in people with DMD for which evidence was available for assessment. Idebenone may result in slightly less of a decline in FVC and less of a decline in FEV1 and PEF, but probably has little to no measurable effect on change in quality of life. [Open Access](#)

See Education section for Brain Tumours in Children Toolkit

- **Haematology**

Physical exercise is safe and feasible in thrombocytopenic patients with hematologic malignancies: a narrative review. Morishita S et al. Hematology. 2020 Dec;25(1):95-100. Review of the current literature to determine the platelet count thresholds and types of physical exercise that may be prescribed to reduce the risk of exercise-related bleeding in those with hematological malignancies while undergoing chemotherapy [Abstract Access](#)

People with hematological malignancies treated with bone marrow transplantation have improved function, quality of life and fatigue following exercise intervention: a systematic review and meta-analysis.

Abo S. Physical Therapy 2021. Conclusions : Exercise is safe and improves outcomes, including functional exercise capacity, health-related quality of life, and hospital length of stay, in adults undergoing bone marrow transplantation. IMPACT: The results of this systematic review support the implementation of exercise programs in adults undergoing bone marrow transplantation, particularly recipients of allogeneic transplantation. [Abstract](#)

Wearable Monitors Facilitate Exercise in Adult and Pediatric Stem Cell Transplant

Pottebaum et al. Exercise and Sport Sciences Reviews: July 2021 - Volume 49 - Issue 3 - p 205-212 Based on existing data that wearable technologies facilitate exercise participation in other sedentary and chronic illness populations, we propose the novel hypothesis that wearable technologies are a valuable tool in transcending barriers and developing exercise therapy programs for HSCT patients [Abstract](#)

Feasibility study of a wellness intervention for caregivers of patients undergoing hematopoietic stem cell transplantation: The Ready to CARE Intervention.

Morency JL et al. British Journal of Occupational Therapy. 2021;84(3):144-153. This original research targets caregivers of patients undergoing hematopoietic stem cell transplantation to maintain their own wellbeing. This feasibility study explored a six-session wellness intervention for caregivers entitled Ready to CARE (Connect, Actively Relax, and Exercise [Abstract](#)

Impact of exercise on the immune system and outcomes in hematologic malignancies.

Sitlinger A et al. Blood Adv. 2020 Apr 28;4(8):1801-1811 This review article encompasses a literature search and identified 7 studies examining exercise and the immune environment in hematologic malignancies. This review focuses on the role of exercise and physical activity on the immune system in hematologic malignancies and healthy adults. Illustrates a complex topic with excellent infographic and practical exercise studies. [Open Access](#)



Multiple myeloma and physical activity. Lecat, C.S.Y., McCourt, O., Land, J. et al. BMC Res Notes 14, 171 (2021).

This study aimed to determine myeloma patients' exercise levels, their perception of physical activity, and to explore correlations with quality of life. Results highlight an unmet exercise need in myeloma patients. [Open Access](#)

Physical Activity During and After Haematological Cancer Treatment: A Cross-Sectional Survey of Haematology Healthcare Professionals in the United Kingdom. McCourt O et al. J Multidiscip Healthc. 2021;14:1659-1671.

This study examined awareness of PA guidance, beliefs and practices in provision of advice given by UK HPs working with haematological cancer patients. [Open Access](#)

CNS Cancer

Physical activity and exercise in adults diagnosed with primary brain cancer: a systematic review. Sandler CX. Journal of Neuro-Oncology 2021;153(1):1-14.

Conclusions: Evidence suggests that it is likely appropriate to promote those with brain cancer to be as physically active as possible. The need or ability of those with brain cancer to meet current physical activity guidelines promoted to all people with cancer remains unclear. [Open Access](#)

Functional Outcomes and Health-Related Quality of Life Following Glioma Surgery.

De Witt Hamer PC et al. Neurosurgery. 2021 Mar 15;88(4):720-732.

This review presents a structure the functional outcome measurements following glioma surgery as reported in the last 5 yr. They review various perspectives on functional outcome of glioma surgery with available measures, and offer suggestions for their use. [Open Access](#)

Interdisciplinary Approaches to Survivorship with a Focus on the Low-grade and Benign Brain Tumor Populations.

Worrell SL et al. Curr Oncol Rep. 2021 Jan 20;23(2):19. In this review, we focus on low-grade gliomas in adults and benign brain tumors, such as meningiomas, vestibular schwannomas, and pituitary tumors, since these individuals survive a long time and morbidity is a major issue. [Open Access](#)

Rehabilitation therapy for patients with glioma: A PRISMA-compliant systematic review and meta-analysis. Zhao K et al. Medicine (Baltimore). 2020 Nov 6;99

The purpose of this meta-analysis is to determine whether rehabilitation therapy can significantly improve the prognosis of neurological function and improve the quality of life of patients with glioma. [Open Access](#)

A pilot randomized controlled trial of exercise to improve cognitive performance in patients with stable glioma: a proof of concept.

Gehring K et al. Neuro Oncol (2020) 22(1):103–115
This pilot randomized controlled trial (RCT) explored the possible impact of an exercise intervention, designed to improve cognitive functioning in glioma patients, regarding cognitive test performance and patient-reported outcomes (PROs) [Open Access](#)

• Sarcoma

“We’re on a Merry-Go-Round”: Reflections of Patients and Carers after Completing Treatment for Sarcoma. Weaver R et al. Current Oncology. 2021; 28(4):3003-3014.



The aim of this study was to explore patients' and carers' reflections on life after treatment for sarcoma. A qualitative research design with a social constructionist epistemology was used.

[Open Access](#)

The unmet needs of carers of patients diagnosed with sarcoma: A qualitative study. Weaver R et al. *Psycho-Oncology*. 2021; 30(7): 1095-1103

The aim of this study was to explore the unmet needs of carers of patients diagnosed with sarcoma [Open Access](#)

Gait analysis of a patient who underwent complete resection of the patella and quadriceps femoris for soft tissue sarcoma. Tanaka K et al. *European Journal of Physical and Rehabilitation Medicine*. 2021 Apr;57(2):298-302.

Case report gait analysis of a patient who had undergone complete resection of the knee extension mechanism. [Abstract Access](#)

Non-oncological outcomes following limb salvage surgery in patients with knee sarcoma: a scoping review, Nafla M et al. *Disability and Rehabilitation* 2021, Published online: 23 Mar 2021
The objective of this review was to explore non-oncological outcomes in patients diagnosed with sarcoma around the knee following limb salvage surgery. [Abstract Access](#)

Editorial: Beware the Sarcoma

Green L & Ashford R. *Physiotherapy* 108(2020) A88-89 Published online

This editorial aims to highlight important features in history and examination for MSK practitioners, who and when to investigate and when to refer when sarcoma is suspected. [Open Access](#)

• **Gynaecological Cancer**

Women's Cancer Rehabilitation: a Review of Functional Impairments and Interventions Among Breast and Gynecologic Cancer Survivors. Oza, S et al. *Curr Phys Med Rehabil Rep* 8, 217–228 (2020). The purpose of this narrative review was to highlight rehabilitation-relevant aspects of cancer treatment and primarily musculoskeletal impairments and rehabilitation interventions among women with breast and gynecologic cancers. [Abstract Access](#)

• **Progressive Neurological Disease**

Immediate versus delayed short-term integrated palliative care for advanced long-term neurological conditions: the OPTCARE Neuro RCT. Heggul N et al. Southampton (UK): NIHR Journals Library; 2020 Sep. P

Pragmatic, randomised controlled, multicentre, fast-track trial Objectives: To determine the effectiveness and cost-effectiveness of short-term integrated palliative care in improving symptoms, improving patient- and caregiver-reported outcomes and reducing hospital use for people severely affected by long-term neurological conditions. [Open Access](#)

• **Advanced Respiratory Disease**

People Living with Both COPD and Frailty: A Realist Review.

[Reference List 2021](#)



Brighton LJ et al. *Int J Chron Obstruct Pulmon Dis*. 2020 Apr 20;15:841-855.

Exercise-based services can improve the health of people with both chronic obstructive pulmonary disease (COPD) and frailty. However, these individuals can find participation challenging.

Reviewers wanted to understand how and why some exercise-based interventions work better than others for people with COPD and frailty, to improve future care [Open Access](#)

Trajectories of disability in activities of daily living in advanced cancer or respiratory disease: a systematic review. Fettes L et al. *Disabil Rehabil*. 2020 Sep 22:1-12.

This review highlights implications for the measurement of ADL disability in advanced cancer or respiratory disease and recommends use of validated measures of ADL to understand what factors can be modified through rehabilitation interventions. Trajectories of ADL disability can be categorized into increasing, fluctuating, and unchanging disability, which could help planning of rehabilitation services in advanced cancer or respiratory disease. [Abstract Access](#)

The Role of Palliative Care in Reducing Symptoms and Improving Quality of Life for Patients with Idiopathic Pulmonary Fibrosis: A Review.

Zou RH et al. *Pulm Ther*. 2020 Jun;6(1):35-46.

The purpose of this review article is to discuss the clinical features of IPF, the role of palliative care in chronic disease management, current data supporting benefits of palliative care in IPF, its role in symptom management, and practices to help patients and their caregivers achieve their best quality of life. [Open Access](#)

Supportive and palliative care for people with chronic respiratory disease and frailty. Brighton LJ et al. *Curr Opin Support Palliat Care*. 2020 Sep;14(3):206-212.

In this review, they consider recent advances in how frailty can be recognized, and its associated impact on people with chronic respiratory disease. They then discuss advances in supportive and palliative care for those with both chronic respiratory disease and frailty. [Open Access](#)

• **Heart Failure**

Rationale for targeted self-management strategies for breathlessness in heart failure. Asano R et al. *Heart Fail Rev*. 2021 Jan;26(1):71-79.

A review to provide a conceptual rationale for targeted self-management strategies for breathlessness in chronic heart failure. [Open Access](#)

Therapies for Advanced Heart Failure Patients Ineligible for Heart Transplantation: Beyond Pharmacotherapy. Huitema AA et al. *Can J Cardiol*. 2020 Feb;36(2):234-243.

The purpose of this article is to review the benefits of palliative care (PC), exercise-based cardiac rehabilitation (ExCR), device therapy (cardiac resynchronization therapy and mitral clip), and mechanical circulatory support (MCS) in advanced HF patients who are transplant ineligible. Further improvement in health-related quality of life as well as functional capacity can be achieved safely in patients with advanced HF through patient participation in ExCR [Abstract Access](#)

A facilitated home-based cardiac rehabilitation intervention for people with heart failure and their caregivers: a research programme including the REACH-HF RCT.

Dalal HM et al. Southampton (UK): NIHR Journals Library; 2021 Feb. PMID: 33617178.



Review aiming to develop an evidence-informed, home-based, self-care cardiac rehabilitation programme for patients with heart failure and their caregivers the REACH-HF (Rehabilitation Enablement in Chronic Heart Failure) intervention [Open Access](#)

Palliative Care in Acute Heart Failure.

Beattie JM et al. *Curr Heart Fail Rep.* 2020 Dec;17(6):424-437.

The review examined palliative care provision for those with acute heart failure, based on the recently updated National Consensus Project Clinical Practice Guidelines for Quality Palliative Care. [Open Access](#)

• HIV

Are patient outcomes improved by models of professionally-led community HIV management which aim to be person-centred? A systematic review of the evidence. Abboah-Offei et. al. *AIDS Care.* 2021 Sep;33(9):1107-1117.

Reviewers appraised the evidence of person-centred models of community HIV care delivered or led by trained healthcare professionals and its impact on care outcomes.

[Abstract Access](#)

Examining the impact of a community-based exercise intervention on cardiorespiratory fitness, cardiovascular health, strength, flexibility and physical activity among adults living with HIV: A three-phased intervention study. O'Brien et al. *PLOS ONE* (2021) 16(9): e0257639.

Concludes: Adults living with HIV who engaged in this six-month CBE intervention demonstrated inconclusive results in relation to $\dot{V}O_2$ peak, and potential improvements in other outcomes of cardiovascular health, strength, flexibility and self-reported physical activity.

[Open Access](#)

Rehabilitation of HIV-associated neurocognitive disorder: a systematic scoping review of available interventions Martins et. al *Advances in Mental Health* Published online: 28 Sep 2021

Currently, the rehabilitative interventions for HAND are unknown. We thus reviewed the putative rehabilitative interventions for HAND and evaluated their post-treatment outcomes.

[Abstract Access](#)

• Covid and End of life care

Interventions for palliative symptom control in COVID-19 patients.

Andreas M et al. *Cochrane Database of Systematic Reviews* 2021, Issue 8.

Authors found very low certainty evidence for the efficacy of pharmacological interventions for palliative symptom relief in COVID-19 patients. We found no evidence on the safety of pharmacological interventions or efficacy and safety of non-pharmacological interventions for palliative symptom control in COVID-19 patients. The evidence presented here has no specific implications for palliative symptom control in COVID-19 patients because authors cannot draw any conclusions about the effectiveness or safety based on the identified evidence. [Open Access](#)

Delivering Virtual Cancer Rehabilitation Programming During the First 90 Days of the COVID-19 Pandemic: A Multimethod Study, Lopez et al. *Archives of Physical Medicine and Rehabilitation,* 2021, 102 (7): 1283-1293,

[Reference List 2021](#)



Authors state Many appointments can be successfully adapted to virtual formats to deliver cancer rehabilitation programming and provide practical recommendations that can be implemented by providers and programs to facilitate the adoption and delivery of virtual care. [Open Access](#)

- **Education/Policy/Practice/Research**

End-of-life care: a resource to help you understand and manage the end-of-life care pathway for brain tumours. Brains Trust; 2021.

This resource will provide information on good end-of-life care, how to achieve it, who can help and how to ensure patients are being informed and making right decisions. It goes through options for stopping treatment through to decisions for where patient wants to die. [Open Access](#)

Brain Tumours in Children Toolkit- Royal College General Practitioners

This toolkit, created in partnership with national awareness campaign HeadSmart, brings together a range of reliable and user-friendly resources including detailed decision support tools. It is primarily aimed at healthcare professionals but also contains information and sources of support for patients and carers [Open Access](#)

Digital Health For Cancer Services Orcha 2021

This resource describes how is digital being used in oncology now. Explores why only 24.7% of digital health for cancer meet quality thresholds and 5 of ORCHA's 50 listed health apps for cancer. [Open Access](#)

Let's talk about strength StrengthMessaging Insight Report Chartered Society of Physiotherapy (2021) [Open Access](#)

Macmillan competency framework for allied health professionals Updated November 2020 [Open Access](#)

Healthy London Partnership Early Diagnosis and Personalised Cancer Care Courses – see webpage for wide range of online courses offered [Open Access](#)

PRosPer- Prehabilitation, Rehabilitation and personalized care for people living with cancer.

Macmillan and Health Education England

The PRosPer programme provides elearning on supporting people with cancer in personalised care and support planning, prehabilitation and rehabilitation. It also covers managing the consequences of cancer and its treatment, workforce development and service redesign. [Open Access](#)

Perceptions and work-readiness of Australian physiotherapists in cancer care: a national evaluation, Dennett et al. Physiotherapy 2021, 113 : Pages 1-7,

Conclusion states: Australian physiotherapists feel underprepared to work in cancer care, but report good confidence and knowledge. Professional development opportunities appear indicated. [Abstract Access](#)

Multidisciplinary, exercise-based oncology rehabilitation programs improve patient outcomes but their effects on healthcare service-level outcomes remain uncertain: a systematic review

Dennett et al. Journal of Physiotherapy, 67(1):12-26,



Multidisciplinary, exercise-based oncology rehabilitation programs improve some patient-level outcomes compared with usual care. Further evidence from randomised trials to determine their effect at a healthcare service level are required if these programs are to become part of standard care. [Open Access](#)

Work-place cancer and palliative care interprofessional education: experiences of students and staff. McKinlay et al. Journal of Interprofessional Care Published online: 01 Nov 2021

Senior dietetic, medical, nursing, physiotherapy and radiation therapy students took part in a workplace IPE initiative on cancer and palliative care informed by experiential learning theory and run by clinical tutors. Research was undertaken to gauge students and tutors' experiences of the initiative. [Abstract Access](#)

- **Prehabilitation Practice**

Perioperative Care for People Living with Frailty Undergoing Elective and Emergency Surgery.

Centre for Perioperative Care & British Geriatrics Society; 2021.

The scope of this guideline covers all aspects of perioperative care relevant to adults living with frailty undergoing elective and emergency surgery. It is written for healthcare professionals involved in delivering care throughout the pathway, as well as for patients and their carers, managers and commissioners. [Open Access](#)

Preoperative Assessment and Optimisation for Adult Surgery

Centre for Perioperative Care & British Geriatrics Society; 2021.

This guidance is intended to be used by primary care, surgeons, anaesthetists, perioperative teams and preoperative assessment (POA) services. It applies to all patients who are being considered for surgery, or are on a waiting list for surgery in the non-emergency setting, irrespective of the magnitude of procedure or the type of anaesthesia contemplated. Its recommendations will support the care of individual patients, the recovery of elective services, and achieving key goals of the NHS Long Term Plan including reducing health inequalities and preventing serious health deterioration. [Open Access](#)

Multi-phasic Prehabilitation Across the Cancer Continuum: A Narrative Review and Conceptual Framework. Santa Mina et al. Front Oncol. 2021 Jan 11;10:598425

Authors propose a multiphasic approach for prehabilitation across the cancer continuum, as a conceptual framework, to encompass the variability in cancer treatment experiences while adopting the most inclusive definition of the cancer survivor. [Open Access](#)

Geriatric Preoperative Optimization: A Review.

Zietlow KE et al. Am J Med. 2021 Aug 18:S0002-9343(21)00513-1

This review summarizes best practices for the perioperative care of older adults as recommended by the American Geriatrics Society, American Society of Anesthesiologists, and American College of Surgeons, with practical implementation strategies that can be readily implemented in busy preoperative or primary care clinics. [Abstract Access](#)

Implementing a telehealth prehabilitation education session for patients preparing for major cancer surgery. Waterland, J.L et al BMC Health Serv Res 21, 443 (2021)



Concludes telehealth alternatives to hospital based pre-operative education are well received by patients preparing for major cancer surgery. They make seven recommendations to improve implementation. Further evaluation of implementation strategies alongside clinical effectiveness in future studies is essential. [Open Access](#)

Efficacy of Prehabilitation Including Exercise on Postoperative Outcomes Following Abdominal Cancer Surgery: A Systematic Review and Meta-Analysis. Waterland JL, McCourt O, Edbrooke L, Granger CL, Ismail H, Riedel B, Denehy L. *Front Surg.* 2021 Mar 19;8:628848.

Concludes that multimodal prehabilitation improves preoperative functional capacity with reduction in hospital length of stay. This supports the need for ongoing research on innovative cost-effective prehabilitation approaches, research within large multicentre studies to verify this effect and to explore implementation strategies within clinical practice [Open Access](#)