

**Interprofessional Standardized Patient Exercise (ISPE):
Sample Interprofessional Team Plan**

Problem	Assessment	Plan
Peripheral Neuropathy	Due to chemotherapy, and contributing to pain, loss of sensation, declining mobility, fear of falling	1. Encourage protection of distal skin and joints given sensory loss by advising proper footwear for exercises and walking. 2. Patient education regarding self-maintenance of skin integrity and peripheral neuropathy safety awareness. 3. Encourage daily inspection of feet. 4. Detailed neuro exam and assessment for peripheral arterial disease annually. 5. Examine feet every clinic visit. 6. Given his calculated CrCl of 44.2 ml/min dose adjust gabapentin to a maximum of 1400 mg/day in divided doses. 700 mg BID or 400 mg TID would be reasonable schedules. 7. Counsel patient to limit acetaminophen use to less than 2 grams per day given history of alcohol abuse, but can increase up to 4 grams if liver is healthy and he continues to abstain from alcohol. 8. Although additional clinical trials are needed, there is some evidence, including in animal studies (Meng 2011) that acupuncture may help and is a low risk, potentially high reward therapy (Franconi 2013). Would further explore patient's ability to get to a series of acupuncture treatments.
Declining Physical Functioning/Activity	History and physical examination suggests declining activity due to a combination of factors: • Peripheral neuropathy • Fear of falling • Decreased balance	1. Referral to physical therapist for evaluation and treatment as follows: • Establishment of exercise regimen including: - balance training (static and dynamic balance in standing/walking including uneven surfaces); - UE/LE/Trunk flexibility and lower extremity

	- Generalized age related deconditioning and lower extremity weakness - Depression/Social Isolation	strengthening and ROM (specifically ROM of ankles and great toe extension); aerobic exercises; - Possible assessment of assistive device needs (if appropriate-evaluate community mobility); - Fall recovery training as needed; - Patient education in peripheral neuropathy and exercise parameters. 2. Tai Chi based on openness given marked reduction in falls noted in multiple trials (Li 2005, Voukelatos 2007).
Osteoporosis	DEXA T-scores of lumbar spine and femur suggest pharmacologic therapy would be appropriate	1. Initiate therapy <i>after</i> dental work completed. 2. Bisphosphonates are first line treatment for osteoporosis in men (either alendronate 10 mg once daily or 70 mg once weekly or risedronate 35 mg once weekly would be appropriate). 3. Counsel patient on proper use of oral bisphosphonate therapy – separate from all other medications by 30 minutes; swallow whole while standing or sitting upright with 4 oz glass of plain water [not mineral water]- avoid any other liquid other than water. Do not take Citracal D within 3 hours of taking bisphosphonate. Monitor for headache, rash, GI symptoms. 4. Consider re-assessment of BMD in 18 months. 5. Patient is tolerating Citracal D well with no current side effects but his daily oral calcium goal should be at least 1000-1200 mg. His Vitamin D goal is 600 to 800 IU. He is only getting 600 mg from the Citracal + D, so would work with improving his dietary calcium intake but also increase his Citracal + D to two tablets daily. Monitor for bloating and constipation; should dissipate with continued use.

		6. Consider repeating vitamin D level at next visit and ordering a serum calcium and phosphate. 7. Continue abstinence from alcohol and tobacco. 8. Encourage increased intake of low lactose and non-dairy calcium and Vit D containing foods.
Depression	Managing complex medical issues along with onset of chronic pain after cancer treatment has led to isolation and detachment from social support network found in his community and AA. His pain and lack of consistent exercise/movement program may contribute to deterioration in mood, perception of quality of life, and overall functionality. He is at risk for further worsening of depressive symptoms in the absence of treatment and improved functional status.	1. Administer PHQ-9 today and every 4 weeks with or without initiation of treatment until 50% drop in score or until below 5 (Cozine and Wilkinson, 2016). 2. Refer patient to individual cognitive behavioral therapy and group therapy. Recommend a group based mindfulness stress reduction group for patients living with chronic pain. 3. Establishment of a daily exercise protocol to maintain and/or enhance flexibility, balance, strength, and aerobic capacity. Encourage patient to engage in exercise/movement (e.g. walking, swimming, tai chi, restorative yoga; weight training) 4. Recommend Sertraline 50 mg daily in the morning in the event patient wishes to discuss medications due to tolerability, safety, and minimal drug/drug interaction. Monitor for insomnia, headache, dizziness, drowsiness, fatigue, sexual side effects. 5. Depending on the level of his desire to try an herbal supplement and if he is resistant to sertraline, then can consider trial of a single ingredient St. John's wort [by Nature's Bounty/Nature's Way] standardized to contain 0.3% hypericin [not hyperforin due to interactions] 900 mg twice daily; monitor for stomach upset, rash, restlessness, dry mouth, headache. Must also assess his reliability in following instructions and willingness to pay out-of-pocket. Do not recommend SJW if sertraline is started, and counsel him on not indiscriminately starting SJW on his own while taking sertraline as this

		can lead to serotonergic symptoms. If no change in symptoms following 2-3 months of SJW, then consider discontinuing. 6. Some of the strongest acupuncture evidence is in the treatment of depression and post-partum depression (MacPherson 2013).
Generalized chronic severe periodontitis	History of infrequent dental care due to dental phobia, poor-fair daily oral hygiene, long-standing periodontal disease and gradual associated tooth loss, 45+ years of smoking tobacco, and 3 years of heavy alcohol use.	1. Given the extent of bone loss and that James will soon start bisphosphonate treatment, ideal treatment plan would be full mouth extractions and immediate dentures prior to initiating bisphosphonate. James may not be ready to accept this recommendation. 2. Alternative treatment plan would be to extract remaining maxillary teeth and immediate maxillary denture. Assess which mandibular teeth might be saved, which need to be extracted, and removable partial denture. Advise James of the high likelihood that the remaining mandibular teeth will need to be extracted in the next 5 years and a mandibular denture placed. 3. James is not a good candidate for implants because of the severity of his periodontal disease (not enough bone level). This would need to be evaluated with further imaging studies as part of his treatment plan. 4. Educate patient on the importance of proper oral hygiene and its connection to overall health: • Twice daily brushing with fluoridated toothpaste • Flossing once daily • Chlorhexidine rinse (prescription)
Carious lesions #19 and #31 (#31 non-restorable)	#31 is asymptomatic but appears to have recurrent caries and fracture that involves	Palliative care for his chief complaint of constantly biting his tongue would be to place a temporary

	the pulp. Fracture is so extensive that not enough tooth structure remains for a crown. Additionally, furcation involvement adds to the diagnosis that the tooth is non-restorable.	filling today (e.g. IRM using an orthodontic band). #31 would subsequently need to be extracted at another appointment, once the treatment plan has been finalized.
Reversible pulpitis #19	#19 currently has a large amalgam restoration with the mesial-lingual cusp fractured off due to recurrent caries. Although a large fracture, James reports symptoms consistent with reversible pulpitis.	Additional pulp vitality testing is needed, and if tests are negative for pulpal involvement, palliative care today for his chief complaint of pain to cold would be to place an MOL amalgam filling.
Social isolation	Patient has lost regular contact with church community, AA meeting members, AA sponsor, and many of his friends due to wife's death, neuropathic pain, deteriorating functional status, and alcohol abuse history (which has included some behavior that the patient regrets and feels embarrassed about). Social isolation has implications for patient's alcohol abuse recovery process, grief experience, and spirituality.	1. Engage patient in group based mindful stress reduction for chronic pain (Veehof, et al 2016). 2. Encourage patient to make plans, once neuropathy is managed, to resume AA group attendance at regular intervals. 3. Suggest that patient re-establish contact with AA sponsor electronically, if not in person. 4. Invite patient to reach out to church community through establishing contact with pastor and exploring with her how he might apologize and reconcile with church members whose feelings he hurt with his alcohol-influenced behavior. 5. Establishment of a daily exercise protocol to maintain and/or enhance flexibility, balance, strength, and aerobic capacity. 6. Encourage group exercise activities to increase socialization. 7. Recommend patient consider going to local senior center for senior congregate meals. He may need paratransit or other transportation.
History of alcohol abuse	Patient has maintained sobriety x 2 years and seems motivated not to resume	1. Affirm patient for maintaining sobriety. 2. Encourage patient to make plans to resume AA

	drinking. However, patient has lost social support once received through regular attendance at AA group, contact with AA sponsor, and church community. Social isolation and depression is a major risk for relapse.	group attendance at regular intervals to fortify his motivation to stay sober, as his neuropathy is hopefully alleviated. 3. Suggest that patient re-establish contact with AA sponsor electronically, if not in person. 4. Invite patient to “share his story” of recovery with chaplain and encourage him to continue “working the [12] Steps” as much as possible. If he is amenable to that advice, help patient to strategize on how he might enact the 9th Step (making amends) in order to repair damaged relationships.
Unresolved grief	Patient has endured a number of losses: <i>functional</i> (due to neuropathy, osteoporosis, and dental issues); <i>relational</i> (due to wife Theresa’s death and loss of communal ties secondary to neuropathy and behavior while abusing alcohol), <i>role</i> (due to retirement and being fired due to behavior while abusing alcohol), and <i>intrapsychic</i> (secondary to cancer, wife’s death, alcohol abuse, and isolation). Since social support has been very limited, it is possible that patient has not had opportunity to process the emotional and spiritual impact of these losses. This “grief work” is necessary for readjustment and reinvestment.	1. Encourage patient to consider attendance at grief support group (e.g., UCSF Spiritual Care Services offers quarterly 8-week-long groups on Wednesday evenings, free of charge). 2. Surface and discuss feelings and thoughts about various losses, as patient wishes. 3. Reassure patient that grief is a normal human reaction to the circumstances he has faced, and offer educational materials if patient wishes to learn more. 4. Encourage patient to reach out to church community through establishing contact with pastor and exploring with her how he might apologize and reconcile with church members whose feelings he hurt with his alcohol-influenced behavior.
Disconnection from spirituality	Very limited contact with church community following wife’s death and an alcohol-influenced incident at the church. Seems not to possess a strong sense of meaning and purpose for his life.	1. Affirm patient for his desire to try new things, such as complementary healing modalities. 2. Encourage patient to contact his church’s pastor and request that they meet at a location convenient to him, like a nearby café, so that he can begin to

	However, his interest in integrative health approaches and willingness to “try new things” suggest some hopefulness and openness. Re-establishing ties with his faith community and helping him discover venues in which he can feel “useful” and purposeful are crucial.	receive 1:1 spiritual support. 3. Suggest that he consult with her about how he might apologize and reconcile with church members whose feelings he hurt with his alcohol-influenced behavior. 4. Invite patient to ask his friend Bill to help him with transportation to church services. 5. Once his neuropathy is addressed, explore with patient how he might extend himself in service to others, such as volunteering, in order to allow him to expand his generative self and also increase his social networks.
Nutrition Diagnosis: Biting/Chewing Difficulty	Altered oral intake due to altered dentition. Unable to eat cold temperature and hard foods, limiting food options.	1. Recommend nutrient dense soft textured foods. 2. Order a variety of foods from Safeway. Other foods to try include lactose free milk, cottage cheese, yogurt, canned fruits, frozen vegetables, nut butters if tolerated.
Nutrition Diagnosis: Inadequate Oral Intake	Decreased intake due to dental issues and possibly also depression and social isolation. Wt. loss of 5# in ~1 month. Albumin of 3.3. indicates possible nutritional risk/mild malnutrition.	1. Encourage eating regular meals and nutrient dense, soft textured foods. 2. Order a variety of foods from Safeway (see above). 3. Encourage increased socialization and balanced meals by going to a senior nutrition congregate meal site.
Healthcare Maintenance		1. Obtain records from previous primary care provider. 2. Over next few visits, discuss: • Vaccinations • Cancer screening • Hearing/Vision assessment • Cognitive assessment • His intention/desire to drive • Goals of care discussion/DPOA

References

1. Meng X, Zhang Y, Li A, et al. The effects of opioid receptor antagonists on electroacupuncture-produced anti-allodynia/hyperalgesia in rats with paclitaxel-evoked peripheral neuropathy. *Brain Research*. 2011;1414:58–65.
2. Li F et al. Tai Chi and fall reductions in older adults: a randomized controlled trial. *J Gerontol A Biol Sci Med Sci*. 2005 Feb;60(2):187-94.
3. Voukelatos A et al. A randomized, controlled trial of tai chi for the prevention of falls: the Central Sydney tai chi trial. *J Am Geriatr Soc*. 2007 Aug;55(8):1185-91.
4. Veehof, MM, Trompetter, HR, Bohlmeijer ET, & Schreurs KM. Acceptance and mindfulness-based interventions for the treatment of chronic pain: a meta analytic review. *Cognitive Behavior Therapy*. 2016; 45(1):5-31.
5. Cozine, E & Wilkinson, J. Depression screening, diagnosis, and treatment across the lifespan. *Primary Care: Clinics in Office Practice*. 2016; 43(2):229-243.
6. St. John's Wort and Depression: In Depth, NIH-NCCIH, <https://nccih.nih.gov/health/stjohnswort/sjw-and-depression.htm>. 2013
7. Miller L, Wickramaratne P, Gameroff MJ, et al. Religiosity and major depression in adults at high risk: A ten-year prospective study. *Am J Psychiatry*. 2012 Jan; 169(1): 89 – 94.
8. MacPherson H et al. Acupuncture and counselling for depression in primary care: A randomised controlled trial. *PLoS Med* 2013 Sep 24.
9. Puchalski C, Ferrell B, Virani R, et al. Improving the quality of spiritual care as a dimension of palliative care: The report of the Consensus Conference. *J Palliat Med*. 2009 Oct; 12(10): 885 – 904.
10. Schrank B, Bird V, Rudnick A, Slade M. Determinants, self-management strategies and interventions for hope in people with mental disorders: Systematic search and narrative review. *Soc Sci Med*. 2012 Feb; 74(4): 554 – 564.
11. Shields M, Kestenbaum A, Dunn LB. Spiritual AIM and the work of the chaplain: A model for assessing spiritual needs and outcomes in relationship. *Palliat Support Care*. 2015 Feb; 13(1): 75 – 89.
12. Weber SR, Pargament KI. The role of religion and spirituality in mental health. *Curr Opin Psychiatry*. 2014 Sept; 27(5): 358 – 363.

References related to acupuncture and chemotherapy-induced peripheral neuropathy (CIPN)

1. Bao, T., et al., *A pilot study of acupuncture in treating bortezomib-induced peripheral neuropathy in patients with multiple myeloma*. *Integr Cancer Ther*, 2014. **13**(5): p. 396-404.
2. Bao, T., et al., *Acupuncture treatment for bortezomib-induced peripheral neuropathy: a case report*. *Pain Res Treat*, 2011. **2011**: p. 920807.
3. Donald, G.K., I. Tobin, and J. Stringer, *Evaluation of acupuncture in the management of chemotherapy-induced peripheral neuropathy*. *Acupunct Med*, 2011. **29**(3): p. 230-3.
4. Garcia, M.K., et al., *Electroacupuncture for thalidomide/bortezomib-induced peripheral neuropathy in multiple myeloma: a feasibility study*. *J Hematol Oncol*, 2014. **7**: p. 41.
5. Kim, J.H., et al., *Electroacupuncture for chemotherapy-induced peripheral neuropathy: study protocol for a pilot multicentre randomized, patient-assessor-blinded, controlled trial*. *Trials*, 2013. **14**: p. 254.
6. Schroder, S., et al., *Acupuncture treatment improves nerve conduction in peripheral neuropathy*. *Eur J Neurol*, 2007. **14**(3): p. 276-81.
7. Schroeder, S., G. Meyer-Hamme, and S. Epplee, *Acupuncture for chemotherapy-induced peripheral neuropathy (CIPN): a pilot study using neurography*. *Acupunct Med*, 2012. **30**(1): p. 4-7.

8. Wong, R. and S. Sagar, *Acupuncture treatment for chemotherapy-induced peripheral neuropathy--a case series*. *Acupunct Med*, 2006. **24**(2): p. 87-91.
9. Zhou, Y., et al., *Multiple myeloma, painful neuropathy, acupuncture?* *Am J Clin Oncol*, 2009. **32**(3): p. 319-25.
10. Wong R, Major P, Sagar S. Phase 2 Study of Acupuncture-Like Transcutaneous Nerve Stimulation for Chemotherapy-Induced Peripheral Neuropathy. *Integr Cancer Ther*. 2016 Jun;15(2): 153-64.
11. Franconi G et al. A Systematic Review of Experimental and Clinical Acupuncture in Chemotherapy-Induced Peripheral Neuropathy. *Evid Based Complement Alternat Med*. 2013; 2013: 516916.

Additional Physical Therapy References

1. Schwenk M, Grewal GS, Holloway D, Muchna A, Garland L, Najafi B. Interactive Sensor-Based Balance Training in Older Cancer Patients with Chemotherapy-Induced Peripheral Neuropathy: A Randomized Controlled Trial. *Gerontology*. 2015.
2. Boltz K. Persistent Chemotherapy-induced Peripheral Neuropathy Symptoms Increase Risk of Falls and Altered Gait. 2016; Data presented at 2016 Survivorship Symposium from a study completed by Kerri M. Winters-Stone. Available at: <http://www.oncologynurseadvisor.com/chemotherapy/persistent-chemotherapy-induced-peripheral-neuropathy-increase-risk-of-falls/article/466179/>. Accessed February 7, 2016
3. Streckmann F, Zopf EM, Lehmann HC, et al. Exercise intervention studies in patients with peripheral neuropathy: a systematic review. *Sports medicine (Auckland, N.Z.)*. 2014;44(9):1289-1304
4. Kruse RL, LeMaster JW, Madsen RW. Fall and balance outcomes after an intervention to promote leg strength, balance and walking in people with diabetic peripheral neuropathy: "Feet First" randomized controlled trial. *Phys Ther*. 2010;90:1568 –1579.
5. Tuttle LJ, Hastings MK, Mueller MJ A Moderate-Intensity Weight-Bearing Exercise Program for a Person With Type 2 Diabetes and Peripheral Neuropathy *PHYS THER*. 2012; 92:133-141.
6. Landers MR, Durand C, Powell DS, Dibble LE, Young DL, Landers MR,. Development of a scale to assess avoidance behavior due to a fear of falling: the Fear of Falling Avoidance Behavior Questionnaire. *Phys Ther*. 2011; 91(8):1253-1265.

Additional Dental References

1. Pretty IA, Ellwood RP, Lo ECM, et al. The Seattle Care Pathway for securing oral health in older patients. *Gerontology* 2014;31(Suppl.1):77-87.
2. American Association of Oral and Maxillofacial Surgeons. Position paper: medication-related osteonecrosis of the jaw – 2014 update. Available from: http://www.aaoms.org/docs/govt_affairs/advocacy_white_papers/mronj_position_paper.pdf

For mood, stress, and spirituality, mind-body therapies mindfulness and yoga are the best researched in this area.

Mindfulness:

1. Carlson, L.E., et al., *Randomized controlled trial of Mindfulness-based cancer recovery versus supportive expressive group therapy for distressed survivors of breast cancer*. *J Clin Oncol*, 2013. **31**(25): p. 3119-26.
2. Garland, S.N., et al., *Increased mindfulness is related to improved stress and mood following participation in a mindfulness-based stress reduction program in individuals with cancer*. *Integr Cancer Ther*, 2013. **12**(1): p. 31-40.

3. Henderson, V.P., et al., *The effects of mindfulness-based stress reduction on psychosocial outcomes and quality of life in early-stage breast cancer patients: a randomized trial*. Breast Cancer Res Treat, 2012. **131**(1): p. 99-109.
4. Henderson, V.P., et al., *A randomized controlled trial of mindfulness-based stress reduction for women with early-stage breast cancer receiving radiotherapy*. Integr Cancer Ther, 2013. **12**(5): p. 404-13.
5. Hoffman, C.J., et al., *Effectiveness of mindfulness-based stress reduction in mood, breast- and endocrine-related quality of life, and well-being in stage 0 to III breast cancer: a randomized, controlled trial*. J Clin Oncol, 2012. **30**(12): p. 1335-42.
6. Lengacher, C.A., et al., *Mindfulness based stress reduction in post-treatment breast cancer patients: an examination of symptoms and symptom clusters*. J Behav Med, 2012. **35**(1): p. 86-94.

Yoga:

1. Banerjee, B., et al., *Effects of an integrated yoga program in modulating psychological stress and radiation-induced genotoxic stress in breast cancer patients undergoing radiotherapy*. Integr Cancer Ther, 2007. **6**(3): p. 242-50.
2. Cohen, L., et al., *Psychological adjustment and sleep quality in a randomized trial of the effects of a Tibetan yoga intervention in patients with lymphoma*. Cancer, 2004. **100**(10): p. 2253-60.
3. Kiecolt-Glaser, J.K., et al., *Yoga's impact on inflammation, mood, and fatigue in breast cancer survivors: a randomized controlled trial*. J Clin Oncol, 2014. **32**(10): p. 1040-9.
4. Rao, M.R., et al., *Anxiolytic effects of a yoga program in early breast cancer patients undergoing conventional treatment: a randomized controlled trial*. Complement Ther Med, 2009. **17**(1): p. 1-8.
5. Vadiraja, H.S., et al., *Effects of a yoga program on cortisol rhythm and mood states in early breast cancer patients undergoing adjuvant radiotherapy: a randomized controlled trial*. Integr Cancer Ther, 2009. **8**(1): p. 37-46.
6. Zhang, J., et al., *Effects of yoga on psychologic function and quality of life in women with breast cancer: a meta-analysis of randomized controlled trials*. J Altern Complement Med, 2012. **18**(11): p. 994-1002.