

2. LBP

Management of hip dysfunction in patients with LBP

Braz J Phys Ther. 2018 Oct 2. pii: S1413-3555(18)30355-1. doi: 10.1016/j.bjpt.2018.09.007.

Examination procedures and interventions for the hip in the management of low back pain: a survey of physical therapists.

Burns SA¹, Cleland JA², Rivett DA³, Snodgrass SJ³.

OBJECTIVES:

The main research aims were to investigate whether physical therapists are examining the hip(s) in individuals with a primary complaint of low back pain (LBP) and if so, the interventions being provided that target the hip(s).

METHODS:

An anonymous electronic survey was distributed to the membership of the American Physical Therapy Association Orthopaedic and Sports Sections, as well as that of the American Academy of Orthopaedic Manual Physical Therapists. Participant demographics and survey responses were analyzed using descriptive statistics. Associations between variables were examined using chi-square analysis.

RESULTS:

The estimated response rate was 18.4% (n=1163, mean age 40.5±11.4 years). The majority of respondents (91%, n=1059) reported they always or most of the time examined the hip(s) in individuals with LBP. The most common examination items utilized were hip strength testing (94%, n=948), passive range of motion (91%, n=921) and muscle flexibility testing (90%, n=906). The most common interventions included hip strengthening (94%, n=866) and hip flexibility exercises (90%, n=814). Respondents enrolled in or having completed a post-professional fellowship were more likely to utilize hip joint manual therapy techniques ($\chi^2=25.3$, $p<0.001$) and less likely to prescribe hip flexibility exercises ($\chi^2=7.9$, $p=0.005$) or use electrophysical modalities ($\chi^2=4.3$, $p=0.039$).

CONCLUSIONS:

Physical therapists commonly examine and provide interventions directed at the hip(s) for individuals with LBP. Post-professional fellowship training appears to influence the intervention selection of the physical therapist, with an increase in usage of hip joint manual therapy and a decrease in hip muscle flexibility and modality usage.

Seeing the same PT help avoid surgery

Phys Ther. 2018 Sep 26. doi: 10.1093/ptj/pzy103.

Associations Between Physical Therapy Continuity of Care and Health Care Utilization and Costs in Patients With Low Back Pain: A Retrospective Cohort Study.

Magel J¹, Kim J², Thackeray A³, Hawley C⁴, Petersen S⁵, Fritz JM⁶.

BACKGROUND:

Patients who consult a physical therapist for low back pain (LBP) may receive initial and subsequent management from different therapists. The impact that physical therapy provider continuity has on health care utilization in patients with LBP is under studied.

OBJECTIVE:

The objective of this study was to examine the impact of physical therapy provider continuity on health care utilization and costs in patients with LBP referred from primary care.

DESIGN:

The study design included a retrospective analysis of claims data.

METHODS:

Data from an all-payer claims database was examined. Logistic regression was used to evaluate the association between physical therapy provider continuity and health care utilization during the 1-year period following a visit with a primary care provider for LBP.

RESULTS:

Patients who experienced higher provider continuity had lower odds of receiving lumbar surgery. The patients that experienced higher physical therapy provider continuity paid less \$ (M = \$ 1737, [95% CI = \$1602, \$1871]) than those that experienced low physical therapy provider continuity \$ (M = \$ 2577, [95% CI = \$2008, \$3145]).

LIMITATIONS:

The degree of causality between any predictor and outcome variables cannot be determined due to the observational nature of the study.

CONCLUSION:

High physical therapy provider continuity appears to be associated with a decreased likelihood of lumbar surgery and lower LBP-related health care costs.

Hypnosis helps

Hypnosis Enhances the Effects of Pain Education in Patients With Chronic Nonspecific Low Back Pain: A Randomized Controlled Trial

Rodrigo R.N. Rizzo Flavia C. Medeiros Leandro G. Pires Rafael M. Pimenta James H. McAuley
,
Mark P. Jensen Leonardo O.P. Costa

DOI: <https://doi.org/10.1016/j.jpain.2018.03.013>

Highlights

- Hypnosis can be combined with education in patients with chronic low back pain.
- The addition of hypnosis improves pain intensity, disability, and catastrophizing.
- The beneficial effects are enhanced, at least in the short- and medium-term.
- The intervention can be offered in group settings.

Abstract

The potential benefits of combining pain education (PE) with clinical hypnosis (CH) has not yet been investigated in individuals with chronic pain. A total of 100 patients with chronic nonspecific low back pain were randomized to receive either: 1) PE alone, or 2) PE with CH. Outcomes were collected by a blinded assessor at 2 weeks and 3 months after randomization. The primary outcomes were average pain intensity, worst pain intensity (both assessed with 11-point numeric rating scales), and disability (24-item Roland Morris Disability Questionnaire) at 2 weeks. At 2 weeks, participants who received PE with CH reported lower worst pain intensity (mean difference = 1.35 points, 95% confidence interval [CI] = .32–2.37) and disability (mean difference = 2.34 points, 95% CI = .06–4.61), but not average pain intensity (mean difference = .67 point, 95% CI = –.27 to 1.62), relative to participants who received PE alone. PE with CH participants also reported more global perceived benefits at 2 weeks (mean difference = –1.98 points, 95% CI = –3.21 to –.75). At 3 months, participants who received PE with CH reported lower worst pain intensity (mean difference = 1.32 points, 95% CI = .29–2.34) and catastrophizing (mean difference = 5.30 points, 95% CI = 1.20–9.41). No adverse effects in either treatment condition were reported. To our knowledge, this is the first trial showing that additional use of hypnosis with PE results in improved outcomes over PE alone in patients with chronic nonspecific low back pain.

Perspective

This study provides evidence supporting the efficacy of another treatment option for teaching patients to self-manage chronic low back pain that has a relatively low cost and that can be offered in groups.

5. SURGERY

Fusion increases risk of hip fx

Osteoporosis International pp 1–7|

Incidence and risk factors for hip fracture in elderly patients undergoing lumbar spine surgery: a nationwide database study with 11-year follow-up

- C.-Y. Li C.-L. Chang T.-W. Tai

Summary

Impaired functional movement may occur after spinal surgery, which increases risk of fall episode and hip fracture. Patients with long-segment thoracolumbar spine fusions had a significantly higher risk of hip fracture than those with only discectomies. Fall prevention is necessary due to the highly increased hip fracture risk.

Introduction

Spinal surgeries are performed to treat spondylolisthesis, fractures, scoliosis, or other deformities. Impaired balance mechanisms and functional movement may occur after spinal surgery. Fall episodes may cause hip fractures, which have negative impacts on quality of life and increase mortality. The incidence of hip fracture after spinal surgery is still unknown. The aim of this study was to examine the association between various types of spinal surgeries and hip fractures in the elderly by using a nationwide database. We hypothesized that the spinal surgeries may increase hip fracture risk in the elderly.

Methods

We used the National Health Insurance Research Database (NHIRD) to identify 3345 patients undergoing spinal surgery and a random dataset to identify 6690 age-, sex- and Charlson comorbidity index (CCI)-matched controls to compare the incidence of hip fractures in an 11-year follow-up period. We also enrolled 82,730 patients with spinal surgeries from the inpatient dataset to investigate the impact of different types of spinal surgeries.

Results

Patients who received spinal surgeries had higher risks of hip fractures, especially patients aged 60 to 79 years and female patients. The patients with long-segment thoracolumbar spinal fusions had a significantly higher risk of hip fracture than those with only discectomies. Short segmental lumbar spine fusions also slightly increased the risk of hip fracture compared with discectomies.

Conclusion

Fall prevention for the elderly undergoing lumbar spinal surgery is necessary due to the highly increased hip fracture risk.

7. PELVIC ORGANS/WOMAN'S HEALTH

Lubricant use

Journal Summaries in Internal Medicine

Lubricant use during intercourse and time to pregnancy: A prospective cohort study

BJOG: An International Journal of Obstetrics and Gynaecology — McInerney KA, et al. | October 12, 2018

Researchers assessed the extent to which lubricant use during intercourse correlates with time to pregnancy (TTP) via two continuing prospective cohort studies of pregnancy planners in Denmark (2011–2017) and North America (2013–2017). They categorized self-reported lubricant use as water-based/not pH balanced, water-based/pH balanced “fertility friendly,” silicone-based, oil-based, or a combination of these. \

At baseline, lubricant use was reported in 17.5% of participants, most commonly water-based/not pH balanced. Outcomes revealed no correlation of lubricant use with reduced fecundability in the preconception cohorts of pregnancy planners studied.

Exercise during pregnancy is helpful

Journal Summaries in Obstetrics & Gynecology

Does exercise during pregnancy impact on maternal weight gain and fetal cardiac function? A randomized controlled study

Ultrasound in Obstetrics & Gynecology — Brik M, et al. | October 19, 2018

Researchers performed a randomized controlled trial to assess differences in maternal weight gain and fetal cardiac function according to exercise during pregnancy. This trial was conducted at Hospital de Torrejón, Madrid, involving 120 pregnant women, allocated into Exercise Group (EG) and Control Group (CG). No association was found between performing an exercise during pregnancy and a reduction in maternal weight gain, however, a higher weight loss 6 weeks postpartum.

Findings suggested an association of performing an exercise with an increased Ductus Arteriosus Pulsatility Index (DAPI) at 20 weeks and Ejection Fraction (EF) at 36 weeks, which could translate into adaptive mechanisms when analyzing fetal cardiac parameters.

Migraineurs research

The Journal of Headache and Pain December 2018, 19:97|

Symptoms of premenstrual syndrome in female migraineurs with and without menstrual migraine

- Kjersti Grøtta Vetvik E. Anne MacGregor Christofer Lundqvist ichael Bjørn Russell

Background

Menstrual migraine (MM) and premenstrual syndrome (PMS) are two conditions linked to specific phases of the menstrual cycle. The exact pathophysiological mechanisms are not fully understood, but both conditions are hypothesized to be triggered by female sex hormones. Co-occurrence of MM and PMS is controversial. The objective of this population-based study was to compare self-assessed symptoms of PMS in female migraineurs with and without MM. A total of 237 women from the general population who self-reported migraine in at least 50% of their menstruations in a screening questionnaire were invited to a clinical interview and diagnosed by a neurologist according to the International Classification of Headache Disorders II (ICHD II), including the appendix criteria for MM. All women were asked to complete a self-administered form containing 11 questions about PMS-symptoms adapted from the Diagnostic and Statistical Manual of Mental Disorders. The number of PMS symptoms was compared among migraineurs with and without MM. In addition, each participant completed the Headache Impact test (HIT-6) and Migraine Disability Assessment Score (MIDAS).

Findings

A total of 193 women returned a complete PMS questionnaire, of which 67 women were excluded from the analyses due to current use of hormonal contraception ($n = 61$) or because they did not fulfil the ICHD-criteria for migraine ($n = 6$). Among the remaining 126 migraineurs, 78 had MM and 48 non-menstrually related migraine. PMS symptoms were equally frequent in migraineurs with and without MM (5.4 vs. 5.9, $p = 0.84$). Women with MM reported more migraine days/month, longer lasting migraine attacks and higher HIT-6 scores than those without MM, but MIDAS scores were similar.

Conclusion

We did not find any difference in number of self-reported PMS-symptoms between migraineurs with and without MM.

Weight loss and telomere length

Breast Cancer Research and Treatment November 2018, Volume 172, Issue 1, pp 105–112|

Randomized controlled trial of weight loss versus usual care on telomere length in women with breast cancer: the lifestyle, exercise, and nutrition (LEAN) study

- Tara Sanft Ilana Usiskin Maura Harrigan Brenda Cartmel Lingeng Lu Fang-Yong Li
- Yang Zhou Anees Chagpar Leah M. Ferrucci Lajos Pusztai

Purpose

Some studies suggest that telomere shortening may be associated with increased breast cancer risk and mortality. Obesity is also associated with increased breast cancer risk and mortality. Few studies have examined changes in telomere length in overweight or obese breast cancer survivors. The purpose of our study was to examine the effect of a 6-month diet- and exercise-induced weight loss intervention versus usual care on telomere length in breast cancer survivors.

Methods

151 breast cancer survivors with body mass index (BMI) ≥ 25 kg/m² were randomly assigned to a 6-month weight loss intervention ($n = 93$) or to usual care ($n = 58$). Fasting blood samples, height, weight, physical activity, and diet were measured at baseline and 6-months. Relative telomere length (RTL) was measured by quantitative-polymerase chain reaction (qPCR) done on buffy coat-extracted genomic DNA. Mean baseline to 6-month changes were compared between groups (intention-to-treat) using generalized estimating equations.

Results

Complete telomere data were available in 125 participants. Women were 58 ± 8 years, with BMI 33.0 ± 6.2 kg/m² and were 2.9 ± 2.5 years from diagnosis; 90% were non-Hispanic white, and 76% had stage 0/I breast cancer. After 6 months, women randomized to weight loss had 3% telomere lengthening compared to 5% shortening in the usual care group ($p = 0.12$). Among women with stage 0/I, the intervention group experienced 7% telomere lengthening compared to 8% shortening in the usual care group ($p = 0.01$). No intervention effect was observed in women with stage II/III breast cancer.

Conclusion

Our findings suggest a weight loss intervention in stage 0 and 1 breast cancer survivors may lead to telomere lengthening, compared to a shortening in their usual care counterparts.

Vit D improved breast CA results

Breast Cancer Research and Treatment November 2018, Volume 172, Issue 1, pp 179–190|
De novo vitamin D supplement use post-diagnosis is associated with breast cancer survival

- J. M. Madden L. Murphy L. Zgaga K. Bennett

Purpose

Experimental laboratory data have indicated a protective effect of vitamin D on breast cancer progression, while epidemiological evidence is growing. Using pharmacy claims data, this study investigates the association between vitamin D supplement use initiated after a breast cancer diagnosis and associated mortality.

Methods

Women aged 50–80 years with a record of invasive breast cancer were identified on the National Cancer Registry Ireland database ($n = 5417$). Initiation of de novo vitamin D post-diagnosis was identified from linked national prescription data ($n = 2581$, 49%). Multivariate Cox proportional hazards models were used to estimate adjusted HRs (95% CIs) for breast cancer-specific mortality.

Results

There was a 20% reduction in breast cancer-specific mortality in de novo vitamin D users (modelled as a time-varying variable) compared to non-users (HR 0.80; 95% CI 0.64–0.99, $p = 0.048$) and the reduction was greater at 49% (HR 0.51; 95% CI 0.34–0.74, $p < 0.001$), if vitamin D was initiated soon after the breast cancer diagnosis (within 6 months).

Conclusions

In this large national breast cancer cohort, de novo vitamin D use post-diagnosis was found to be associated with a reduction in breast cancer-specific mortality. Vitamin D, therefore, has the potential as a non-toxic and inexpensive agent to improve survival in breast cancer patients. Findings support the need for RCTs exploring the effect of vitamin D supplementation on breast cancer survival.

8. VISCERA

Faith based interventions

Cluster Randomized Clinical Trial of FAITH (Faith-Based Approaches in the Treatment of Hypertension) in Blacks

Antoinette M. Schoenthaler Kristie J. Lancaster , William Chaplin

Mark Butler Jessica Forsyth Gbenga Ogedegbe

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Abstract

Background:

Therapeutic lifestyle change (TLC) is a recommended treatment for patients with hypertension, but its effectiveness in community-based settings remains untested, particularly in black churches—an influential institution for health promotion in black communities.

Methods and Results:

The FAITH study (Faith-Based Approaches in the Treatment of Hypertension) evaluated the comparative effectiveness of a TLC intervention plus motivational interviewing (MINT) sessions versus health education (HE) alone, on blood pressure (BP) reduction among blacks with uncontrolled hypertension. Data were collected on 373 participants meeting eligibility criteria (self-identification as black, age ≥ 18 years, self-reported diagnosis of hypertension, and uncontrolled BP [BP $\geq 140/90$ or $\geq 130/80$ mm Hg with diabetes mellitus or chronic kidney disease]) from 32 New York City churches. The MINT-TLC intervention plus motivational interviewing treatment comprised 11 weekly group sessions on TLC plus 3 MINT sessions delivered monthly by lay health advisors. The HE control group received 1 TLC session plus 10 sessions on health topics delivered by local experts. The outcomes were BP reduction at 6 months (primary) and BP control and BP reduction at 9 months (secondary). The sample mean age was 63 years; 76% women, with mean BP of 153/87 mm Hg. Using linear mixed-effects regression models, the MINT-TLC intervention plus motivational interviewing group had a significantly greater systolic BP reduction of 5.79 mm Hg compared with the HE group at 6 months ($P=0.029$). The treatment effect on systolic BP persisted at 9 months but had reduced significance (5.21 mm Hg; $P=0.068$). The between-group differences in diastolic BP reduction (0.41 mm Hg) and mean arterial pressure (2.24 mm Hg) at 6 months were not significant. Although the MINT-TLC intervention plus motivational interviewing group had greater BP control than the HE group at 9 months, the difference was not statistically significant (57.0% versus 48.8%; odds ratio, 1.43; 95% CI, 0.90–2.28).

Conclusions:

A community-based lifestyle intervention delivered in churches led to significantly greater reduction in systolic BP in hypertensive blacks compared with HE alone.

Constipation

Successful *Helicobacter pylori* eradication therapy improves symptoms of chronic constipation

Masaki Murata Mitsushige Sugimoto Taketo Otsuka Atsushi Nishida Osamu Inatomi
Shigeki Bamba Akira Andoh

<https://doi.org/10.1111/hel.12543>

Constipation is one of the most common gastrointestinal functional disorders. Recently, the gut microbiota has been implicated in the development of constipation. *Helicobacter pylori* infection is considered to be a possible factor influencing the gut microbiota profile. Here, we investigated the effect of *H. pylori* eradication therapy on symptoms of chronic constipation.

Methods

We recruited 166 *H. pylori*-positive patients who underwent eradication therapy after endoscopy. We evaluated the severity of symptoms of chronic constipation before eradication therapy and 2 months post-therapy using two questionnaires, the Gastrointestinal Symptom Rating Scale (GSRS) and the Izumo scale. In addition, we evaluated association with constipation and *H. pylori* infection in patients with constipation-related symptoms in not only all patients, but also patients with the constipation-related symptoms in relation to eradication outcome, the severity of constipation-related symptoms, and the severity of endoscopic gastric mucosal atrophy.

Results

Mean GSRS scores were 5.10 ± 2.67 in all patients and 6.15 ± 2.91 in constipation patients which were significantly lower than that before eradication (5.78 ± 3.27 , $P < 0.01$ and 8.19 ± 3.09 , $P < 0.01$, respectively). Constipation-related scores of the GSRS questionnaire in the successful eradication group were significantly improved after eradication from 5.63 ± 3.06 in all patients and 8.00 ± 2.85 in constipation patients to 5.11 ± 2.71 ($P = 0.02$) and 6.16 ± 2.96 ($P < 0.01$), while scores in the failed eradication group before and after eradication were similar. Constipation-related scores in patients with mild gastric atrophy (Kimura-Takemoto classification, C-I to O-I) were significantly decreased after eradication, but were not decreased in patients with severe atrophy (O-II and O-III).

Conclusions

Successful eradication therapy for *H. pylori* infection may confer additional benefits in *H. pylori*-positive patients with symptoms of chronic constipation, especially in patients with mild gastric atrophy.

10 A. CERVICAL SPINE**Chronic neck pain**

Pain Med. 2018 Oct 1;19(10):2077-2088. doi: 10.1093/pm/pnx331.

The Relevance of Proprioception to Chronic Neck Pain: A Correlational Analysis of Flexor Muscle Size and Endurance, Clinical Neck Pain Characteristics, and Proprioception.

Amiri Arimi S^{1,2}, Ghamkhar L^{1,2}, Kahlaee AH^{1,2}.

BACKGROUND:

Impairment in the cervical proprioception and deep flexor muscle function and morphology have been regarded to be associated with chronic neck pain (CNP).

OBJECTIVE:

The aim of the study is to assess the relationship between proprioception and flexor endurance capacity and size and clinical CNP characteristics.

DESIGN:

This was an observational, cross-sectional study.

SETTING:

Rehabilitation hospital laboratory.

SUBJECTS:

Sixty subjects with or without CNP participated in the study.

METHODS:

Joint position error, clinical deep flexor endurance test score, longus colli/capitis and sternocleidomastoid muscle size, pain intensity, neck pain-related disability, and fear of movement were assessed. Multivariate analysis of variance and Pearson correlation tests were used to compare the groups and quantify the strength of the associations among variables, respectively. Logistic regression analysis was performed to test the predictive value of the dependent variables for the development of neck pain.

RESULTS:

CNP patients showed lower flexor endurance ($P = 0.01$) and smaller longus colli size ($P < 0.01$). The joint position error was not statistically different between the groups. Longus colli size was correlated with local flexor endurance in both CNP ($P = 0.01$) and control ($P = 0.04$) groups. Among clinical CNP characteristics, kinesiophobia showed fair correlation with joint position error ($r = 0.39$, $P = 0.03$). Left rotation error and local flexor endurance were significant predictors of CNP development ($\beta = 1.22$, $P = 0.02$, and $\beta = 0.97$, $P = 0.02$, respectively).

CONCLUSIONS:

The results indicated that cervical proprioception was associated neither with deep flexor muscle structure/function nor with clinical CNP characteristics. Left rotation error and local flexor endurance were found relevant to neck pain development.

PMID: 29304254 DOI: 10.1093/pm/pnx331

12 A. WHIPLASH**Neck specific exercise most effective**

Qual Life Res. 2018 Sep 17. doi: 10.1007/s11136-018-2004-3.

The effect of three exercise approaches on health-related quality of life, and factors associated with its improvement in chronic whiplash-associated disorders: analysis of a randomized controlled trial.

Landén Ludvigsson M^{1,2}, Peterson G^{3,4}, Peolsson A³.

PURPOSE:

The aim was to evaluate whether neck-specific exercise, with (NSEB) or without (NSE) a behavioural approach, improves health-related quality of life (HRQoL) compared to physical activity prescription (PPA) in chronic whiplash-associated disorders (WAD) grades 2 and 3. A secondary aim was to identify factors associated with HRQoL and HRQoL improvement following exercise interventions.

METHODS:

This is a secondary analysis of a multicentre randomized clinical trial. Participants (n = 216) with chronic WAD grades 2 and 3 were randomized to 12 weeks of PPA or physiotherapist-led NSE or NSEB. The EQ-5D 3L/EQ-VAS and SF-36v2 physical (PCS) and mental (MCS) component summaries were collected together with several neck-related and psychosocial outcomes at baseline, after 3, 6 and 12 months, and were analysed with linear mixed models (all time points) and multivariate linear regressions (baseline, 6 months).

RESULTS:

NSE/NSEB resulted in better outcomes than PPA (EQ-VAS and SF-36 PCS, both groups, $p < 0.01$) but not in a higher EQ-5D score. Improvement over time was seen in EQ-5D/EQ-VAS for the NSEB group ($p < 0.01$), and for NSE/NSEB as measured with the PCS ($p < 0.01$). Factors associated with baseline HRQoL and change to 6 months in HRQoL ($R^2 = 0.38-0.59$) were both neck-related and psychosocial (e.g. depression, work ability).

CONCLUSION:

Neck-specific exercise, particularly with a behavioural approach, may have a more positive impact on HRQoL than physical activity prescription in chronic WAD grades 2 and 3. HRQoL is however complex, and other factors also need to be considered. Factors associated with HRQL and improvements in HRQoL following exercise are multidimensional.

13 B. TMJ/ORAL**PRP helps****The use of platelet-rich plasma to enhance the outcomes of implant therapy: A systematic review**

Alexandra Stähli Franz Josef Strauss Reinhard Gruber

<https://doi.org/10.1111/clar.13296>

Objective

To assess the effect of platelet-rich plasma (PRP) on implant dentistry. The primary focused question was as follows: What are the clinical, histological, and radiographic outcomes of PRP administration for bone regeneration and implant therapy?

Methods

A literature search was conducted involving three databases: MEDLINE, EMBASE and Cochrane database followed by a hand search of relevant scientific journals. Human studies using PRP for bone regeneration and implant therapy were considered and articles published up to December 31, 2017 were included. Eligible studies were selected based on the inclusion criteria, and quality assessments were conducted.

Results

In total, out from the 9,497 titles meeting the original search criteria, 22 fulfilled the inclusion criteria and were chosen for data extraction. Among them were 15 randomized controlled trials (RCT) and seven controlled clinical trials (CCT). Overall, the risk of bias was moderate to high. A total of seven studies showed superior outcomes when PRP was added during sinus floor elevation and five showed no superior outcome. Three studies found a significant advantage of PRP for alveolar bone regeneration and another three studies for soft tissue healing. Three studies reported on beneficial effects of PRP directly during implant placement while another study failed to find significant differences. Due to the heterogeneity of study designs, no meta-analysis could be performed.

Summary and Conclusions

Despite the lack of consistent evidence supporting the clinical benefit of PRP in healthy patients, PRP might have a positive effect on wound healing and bone regeneration in compromised patients.

Periodontal disease and Alzheimer's

Alzheimer's Disease Resource Center

Association between periodontitis and risk of Alzheimer's disease, mild cognitive impairment and subjective cognitive decline: A case-control study

Journal of Clinical Periodontology

Holmer J, et al. | October 09, 2018

Authors sought to test the presumption that periodontal disease contributes to the elevated risk of mild cognitive impairment (MCI), subjective cognitive decline (SCD) and Alzheimer's disease (AD).

Findings suggested an association of the marginal periodontitis with early cognitive impairment and Alzheimer's disease. Nonetheless, noncausal explanations were not precluded by the study design. Compared to the controls, poor oral health and marginal alveolar bone loss were more prevalent. They noted an association of the cases group with a generalized marginal alveolar bone loss, increased number of deep periodontal pockets and dental caries.

19. GLENOHUMERAL/SHOULDER**Measure posterior capsule tightness**

J Shoulder Elbow Surg. 2018 Oct 1. pii: S1058-2746(18)30540-8. doi: 10.1016/j.jse.2018.07.013.

The reliability, validity, and methodologic quality of measurements used to quantify posterior shoulder tightness: a systematic review of the literature with meta-analysis.

Salamh PA¹, Liu X², Kolber MJ³, Hanney WJ⁴, Hegedus EJ⁵.

HYPOTHESIS AND BACKGROUND:

Posterior shoulder tightness (PST) has been linked to numerous shoulder pathologies in both the general and athletic populations. Several methods for documenting PST have been described in the literature, which may lend to variability in clinical practice and research. The purpose of this study was to perform a systematic review with meta-analysis to investigate the reliability, validity, and methodologic quality of methods used to quantify PST.

METHODS:

Relevant studies were assessed for inclusion, and selected studies were identified from the PubMed, Embase, Cochrane, and CINAHL (Cumulative Index to Nursing and Allied Health Literature) databases. Data were extracted from the selected studies and underwent methodologic quality assessment and meta-analysis.

RESULTS:

The search resulted in 1006 studies identified, with 18 ultimately retained. Intrarater reliability was reported in 12 studies with a summary intraclass correlation coefficient of 0.93 (95% confidence interval, 0.90-0.95), whereas inter-rater reliability was reported in 6 studies with a summary intraclass correlation coefficient of 0.89 (95% confidence interval, 0.80-0.94). Validity was reported in 10 studies, all using internal rotation as the convergent standard, and was found to be significant in all but 1 study.

CONCLUSION:

Current methods used to quantify PST have good reliability but are primarily limited to measures of horizontal adduction of the glenohumeral joint with scapular stabilization. Limitations in using a single measurement technique exist particularly as there may be multiple contributing factors to PST. A more comprehensive approach for quantifying PST is necessary, and suggested components include a cluster of techniques composed of horizontal adduction, internal rotation, and total glenohumeral joint range of motion.

35. KNEE/TOTAL**Crepitus does not seem to be important**

Braz J Phys Ther. 2018 Sep 30. pii: S1413-3555(18)30248-X. doi: 10.1016/j.bjpt.2018.09.009

Knee crepitus is not associated with the occurrence of total knee replacement in knee osteoarthritis - a longitudinal study with data from the Osteoarthritis Initiative.

Pazzinatto MF¹, de Oliveira Silva D¹, Azevedo FM², Pappas E³.

OBJECTIVE(S):

To investigate whether the presence of knee crepitus is associated with the occurrence of total knee replacement (TKR), quality of life and deficits in physical function at long-term.

METHODS:

Setting - This observational study uses longitudinal data (up to 4-year follow-up) from the Osteoarthritis Initiative (OAI). Participants - 4566 participants. Main Outcome Measure(s) - Logistic regression models were used to test if baseline knee crepitus is associated with the occurrence of TKR. Linear mixed models with adjustment for confounding variables (age, gender, BMI and Kellgren-Lawrence grade) were used to test the association between baseline knee crepitus and longitudinal changes in the pain, self-reported physical function, quality of life and performance-based function.

RESULTS:

The presence of knee crepitus at baseline does not predict the occurrence of TKR at 36 months ($p=0.58$ and 0.67 for right and left knees, respectively). The crepitus group presented a slightly knee extension strength decline from baseline to 48 months ($p=0.03$ for the right and 0.01 for the left knee; between group difference= 2% for both right [$95\%CI=-0.12; -0.01$] and left knees [$95\%CI=-0.13; -0.02$]).

CONCLUSION:

The presence of knee crepitus is not associated with the occurrence of TKR in the following three years. Knee crepitus is associated with slightly declines in knee extension strength, but this does not seem to affect physical function and quality of life at long-term.

Balance training helps

Sports Med. 2018 Oct;48(10):2367-2385. doi: 10.1007/s40279-018-0964-7.

The Effects of Balance Training on Balance Performance and Functional Outcome Measures Following Total Knee Arthroplasty: A Systematic Review and Meta-Analysis.

Doma K^{1,2}, Grant A³, Morris J³.

BACKGROUND: Several studies have examined the effects of balance training in elderly individuals following total knee arthroplasty (TKA), although findings appear to be equivocal.

OBJECTIVES: This systematic review and meta-analysis examined the effects of balance training on walking capacity, balance-specific performance and other functional outcome measures in elderly individuals following TKA.

METHODS: Data sources: Pubmed, PEDro, Cinahl, SportDiscus, Scopus. Eligibility criteria: Data were aggregated following the population-intervention-comparison-outcome (PICO) principles. Eligibility criteria included: (1) randomised controlled trials; (2) studies with comparative groups; (3) training interventions were incorporated post-TKA; and (4) outcome measures included walking capacity, balance-specific performance measures, subjective measures of physical function and pain and knee range-of-motion.

PARTICIPANTS: Elderly individuals (65 + years) who underwent total knee arthroplasty.

INTERVENTIONS: Balance interventions that consisted of balance exercises, which were compared to control interventions that did not involve balance exercises, or to a lesser extent. Participants also undertook usual physiotherapy care in conjunction with either the balance and/or control intervention. The intervention duration ranged from 4 to 32 weeks with outcome measures reported immediately following the intervention. Of these, four studies also reported follow-up measures ranging from 6 to 12 months post-interventions. Study appraisal: PEDro scale.

SYNTHESIS METHODS: Quantitative analysis was conducted by generating forest plots to report on standardised mean differences (SMD; i.e. effect size), test statistics for statistical significance (i.e. Z values) and inter-trial heterogeneity by inspecting I^2 . A meta-regression was also conducted to determine whether training duration predicted the magnitude of SMD.

RESULTS: Balance training exhibited significantly greater improvement in walking capacity (SMD = 0.57; Z = 6.30; P < 0.001; I^2 = 35%), balance-specific performance measures (SMD = 1.19; Z = 7.33; P < 0.001; I^2 = 0%) and subjective measures of physical function (SMD = 0.46; Z = 4.19; P < 0.001; I^2 = 0%) compared to conventional training immediately post-intervention. However, there were no differences in subjective measures of pain (SMD = 0.77; Z = 1.63; P > 0.05; I^2 = 95%) and knee range-of-motion (SMD = 0.05; Z = 0.39; P > 0.05; I^2 = 1%) between interventions. At the 6- to 12-month follow-up period, improvement in combined measures of walking capacity and balance performance (SMD = 0.41; Z = 3.55; P < 0.001; I^2 = 0%) were significantly greater for balance training compared to conventional training, although no differences were observed for subjective measures of physical function and pain (SMD = 0.26; Z = 2.09; P > 0.05; I^2 = 0%). Finally, the training duration significantly predicted subjective measures of pain and physical function (r^2 = 0.85; standardised β = 0.92; P < 0.001), although this was not observed for walking capacity and balance-specific performance measures (r^2 = 0.02; standardised β = 0.13; P = 0.48).

CONCLUSION:

Balance training improved walking capacity, balance-specific performance and functional outcome measures for elderly individuals following TKA. These findings may improve clinical decision-making for appropriate post-TKA exercise prescription to minimise falls risks and optimise physical function.

45 A. MANUAL THERAPY LUMBAR & GENERAL**MT more effective with LBP****Original Research Paper****Regional manual therapy and motor control exercise for chronic low back pain: a randomized clinical trial****Jason Zafereo, Sharon Wang-Price, Toni Roddey & Kelli Brizzolara**

- <https://doi.org/10.1080/10669817.2018.1433283>

Objectives

Clinical practice guidelines recommend a focus on regional interdependence for the management of chronic low back pain (CLBP). This study investigated the additive effect of regional manual therapy (RMT) when combined with standard physical therapy (SPT) in a subgroup with CLBP.

Methods

Forty-six participants with CLBP and movement coordination impairments were randomly assigned to receive SPT consisting of a motor control exercise program and lumbar spine manual therapy, or SPT with the addition of RMT to the hips, pelvis, and thoracic spine. Outcome measures included disability level, pain intensity, pain catastrophizing, fear avoidance beliefs, and perceived effect of treatment. Appropriate parametric and non-parametric testing was used for analysis.

Results

Both groups demonstrated improvements in disability level, pain intensity, pain catastrophizing, and fear avoidance beliefs across time ($P < 0.001$). There was no difference between groups for any variable over 12 weeks, although a significantly greater proportion of participants in the RMT group exceeded the minimal clinically important difference (MCID) for disability. The perceived effect of treatment also was significantly higher in the group receiving RMT at two weeks and four weeks, but not 12 weeks.

Discussion

SPT with or without RMT resulted in significant improvements in disability level, pain intensity, pain catastrophizing, and fear avoidance beliefs over 12 weeks in persons with CLBP and movement coordination impairments. RMT resulted in greater perceived effect of treatment, and a clinically meaningful improvement in disability, across four weeks compared to SPT alone.

Level of Evidence: 1b

Mulligan not proven to help LBP

Clin Rehabil. 2018 Oct;32(10):1289-1298. doi: 10.1177/0269215518778321. Epub 2018 May 30.

Effectiveness of mobilization with movement (Mulligan concept techniques) on low back pain: a systematic review.

Pourahmadi MR¹, Mohsenifar H¹, Dariush M², Aftabi A¹, Amiri A¹.

OBJECTIVE:

To evaluate evidence on the effectiveness of Mulligan techniques on low back pain.

DATA SOURCES:

PubMed/Medline, Scopus, Ovid, CINAHL, Embase, PEDro, Google Scholar, and Cochrane Library were searched from inception to 31 March 2018 for randomized clinical trials reporting outcomes of pain or disability in adult patients (≥ 18 years) with low back pain.

REVIEW METHODS:

Two authors screened the results and extracted data for use in this review. The risk of bias was evaluated using the Cochrane criteria. Basic information and treatment protocols were also extracted. In addition, the level of evidence of each study and strength of conclusion for pain and disability were determined.

RESULTS:

A total of 20 studies with 693 patients were included. Nine trials focused on sustained natural apophyseal glide, three on spinal mobilization with limb movement and seven on bent leg raise. The results showed that Mulligan techniques can decrease pain and disability and increase range of motion in patients with low back pain; however, the strength of conclusion for pain and disability was moderate. Furthermore, inconclusive results were observed for the effectiveness of Mulligan techniques on movement speed. In this review, eight studies were categorized as low risk of bias, while 12 studies had high risk of bias. Level of evidence analysis revealed that 17 studies were classified as level of evidence B, while three studies were classified as level of evidence A2.

CONCLUSION:

Current evidence is insufficient in supporting the benefits of Mulligan techniques on pain, disability, and range of motion in low back pain patients.

45 B. MANUAL THERAPY CERVICAL

Mulligan helps

Original Research Paper

Immediate and short-term effects of mulligan concept positional sustained natural apophyseal glides on an athletic young-adult population classified with mechanical neck pain: an exploratory investigation

Dawn P. Andrews , Kari B. Odland-Wolf, James May, Russell Baker, Alan Nasypany  & Eric M. Dinkins

- <https://doi.org/10.1080/10669817.2018.1460965>

Objectives: Mechanical neck pain (MNP) is common in the athletic population. While symptoms may present at the cervical spine for patients complaining of MNP, thoracic spinal alignment or dysfunction may influence cervical positioning and overall cervical function. Clinicians often employ cervical high-velocity low-amplitude (HVLA) thrust manipulations to treat MNP, albeit with a small level of inherent risk. Mulligan Concept positional sustained natural apophyseal glides (SNAGs) directed at the cervicothoracic region are emerging to treat patients with cervical pain and dysfunction, as evidence supporting an interdependent relationship between the thoracic and cervical spine grows. The purpose of this a priori study was to evaluate outcome measures of patients classified with MNP treated with the Mulligan Concept Positional SNAGs.

Methods: Ten consecutive young-adult patients, ages ranging from 15 to 18 years (mean = 16.5 ± 1.78), classified with MNP were treated utilizing Mulligan Concept Positional SNAGs. The Numeric Rating Scale (NRS), Patient-Specific Functional Scale (PSFS), Neck Disability Index (NDI), Disablement in the Physically Active (DPAS), and Fear-Avoidance Based Questionnaire-Physical Activity (FABQPA) were collected for inclusion criteria and to identify patient-reported pain and dysfunction.

Results: Patients reported decreases in pain on the NRS [5.4 to .16, $p = .001$], increases in function on the PSFS [5.2 to 10, $p = .001$], and increases in cervical range of motion (CROM) [ext $p = .003$, flex $p = .009$, left rot $p = .001$, right rot $p = .002$] immediately post-treatment and between treatments.

Discussion: Positional SNAGs directed at the cervicothoracic region may address a variety of patient reported symptoms for MNP, and the number of treatment sessions needed for symptom resolution may be closer to a single session rather than multiple treatments. **Level of Evidence:** 4.

Odontoid fx

Archives of Orthopaedic and Trauma Surgery pp 1–9|

Mortality, complication, and fusion rates of patients with odontoid fracture: the impact of age and comorbidities in 204 cases

- Yann Philippe Charles Yves Ntilikina Cédric Barrey

Purpose

The French Society of Spine Surgery (SFCR) conducted a prospective epidemiologic multicenter study. The purpose was to investigate mortality, complication, and fusion rates in patients with odontoid fracture, depending on age, comorbidities, fracture type, and treatment.

Methods

Out of 204 patients, 60 were ≤ 70 years and 144 were > 70 years. Demographic data, comorbidities, treatment types and complications (general medical, infectious, neurologic, and mechanical), and death were registered within the first year. Fractures were classified according to Anderson–D’Alonzo and Roy–Camille on the initial CT. A 1-year follow-up CT was available in 144 patients to evaluate fracture consolidation.

Results

Type II and oblique-posterior fractures were the most frequent patterns. The treatment was conservative in 52.5% and surgical in 47.5%. The mortality rate in patients ≤ 70 was 3.3% and 16.7% in patients > 70 years ($p = 0.0002$). Fracture pattern and treatment type did not influence mortality. General medical complications were significantly more frequent > 70 years ($p = 0.021$) and after surgical treatment ($p = 0.028$). Neurologic complications occurred in 0.5%, postoperative infections in 2.0%, and implant-related mechanical complications in 10.3% (associated with pseudarthrosis). Fracture fusion was observed in 93.5% of patients ≤ 70 years and in 62.5% > 70 years ($p < 0.0001$). Pseudarthrosis was present in 31.5% of oblique-posterior fractures and in 24.3% after conservative treatment.

Conclusions

Age and comorbidities influenced mortality and medical complication rates most regardless of fracture type and treatment choice. Pseudarthrosis represented the main complication, which increased with age. Pseudarthrosis was most frequent in type II and oblique-posterior fractures after conservative treatment.

45 D. MANUAL THERAPY EXTREMITIES**Mulligan effective for rotator cuff care**

J Back Musculoskelet Rehabil. 2018 Sep 14. doi: 10.3233/BMR-181230.

The effect of mulligan mobilization on pain and life quality of patients with Rotator cuff syndrome: A randomized controlled trial.

Menek B¹, Tarakci D², Algun ZC¹.

BACKGROUND:

Mulligan mobilization techniques cause pain and affect the function in patients with Rotator cuff syndrome.

OBJECTIVE:

The aim of the study was to investigate the effect of Mulligan mobilization on pain and quality of life in individuals with Rotator cuff syndrome.

METHODS:

This study was conducted on 30 patients with Rotator cuff syndrome. The patients were randomized into Mulligan and control group. All the patients participating in this study were treated with conventional physiotherapy. Additionally, the Mobilization with movement (MWM) technique was used in the Mulligan group. Visual Analog Scale (VAS), Disabilities of the Arm, Shoulder, and Hand (DASH), goniometer for the normal range of motion (ROM) and Short Form-36 (SF-36) questionnaires were used for assessment.

RESULTS:

Statistically significant improvement was found in the post-treatment VAS, DASH, SF-36, and ROM values significantly improved in both groups ($p < 0.05$). However, the Mulligan group showed much better results when compared to the control group in ROM, VAS, DASH ($p < 0.05$). In the SF-36 questionnaire, significant results were obtained for both groups, except the social function parameter. For the SF-36 parameters, both groups performed equally.

CONCLUSIONS:

Mulligan mobilization was more effective than general treatment methods for pain as well as normal joint motion, DASH scoring and some parameters of SF-36 compared with general treatment methods.

50 B. PNF

Rhythmic stabilization

Original Research Paper

Is it possible to stabilize the trunk using rhythmic stabilization in the upper limb? A cross-sectional study of asymptomatic individuals

Valdeci Carlos Dionisio , Cyntia Rogean de Jesus Alves de Baptista, Adriana de Sales Rodrigues & Luciane Aparecida Pascucci Sande de Souza

- <https://doi.org/10.1080/10669817.2018.1467994>

Objective: The study aim was to evaluate the immediate effect of rhythmic stabilization on local and distant muscles involved in a functional reach.

Method: Prospective, observational cross-sectional study. Eight right-handed and non-impaired individuals (4 females and 4 males) aged 18–24 years (21.5 ± 1.58 years) were evaluated. Bilateral electromyographic recording of the biceps brachii, triceps brachii, multifidus lumbar, and rectus abdominis muscles was performed during three different tasks. Task 1 involved functional reach, while Task 2 involved rhythmic stabilization followed by a functional reach. Task 3 was similar to Task 2, but with 3 repetitions before a functional reach.

Results: The results showed no difference between the tasks or sides. However, an interaction was observed between each side and muscles, with greater activation of the right multifidus lumbar muscle.

Conclusion: Rhythmic stabilization during the task of reaching promotes an increase of multifidus activity ipsilateral to its application. Thus, this particular technique of proprioceptive neuromuscular facilitation can be useful for improving stability of the trunk and can be used in clinical practice for this purpose. **Level of Evidence:** 5.

59. PAIN

Botox helps neuralgia

Journal Summaries in Pain Management

Botulinum toxin-A for the treatment of neuralgia: A systematic review and meta-analysis

Journal of Pain Research

Meng F, et al. | October 17, 2018

For neuralgia treatment, Researchers conducted a meta-analysis to assess the effectiveness and safety of botulinum toxin-A (BTX-A). Twelve randomized controlled trials (RCTs) comparing BTX-A treatment with saline for alleviating neuropathic pain were analyzed. At 4 weeks, the BTX-A group displayed significantly lower pain scores vs the saline group. BTX-A was not linked to any serious adverse events, but 14 out of 108 patients with trigeminal neuralgia experienced mild facial asymmetry after treatment with BTX-A.

Findings thereby suggest that BTX-A could be a safe and effective treatment option for neuralgia.

62 A. NUTRITION/VITAMINS**Glycemic control reduces risk of amputation****Effect of Intensive Glycemic Control on Risk of Lower Extremity Amputation**

Matthew P. Goldman, MD Christopher J. Clark, MD Timothy E. Craven, MS Ross P. Davis, MD
Matthew S. Edwards, MD, MS, FACS

PlumX Metrics

DOI: <https://doi.org/10.1016/j.jamcollsurg.2018.09.021>

Background

Diabetes mellitus is a major risk factor for peripheral arterial disease and lower extremity amputation (LEA). We evaluated the effects of intensive glucose control (IGC) on risk of LEA in type 2 diabetics during a randomized-controlled multicenter trial.

Methods

The Action to Control Cardiovascular Risk in Diabetes (ACCORD) trial randomized type 2 diabetics to IGC (HbA1c target <6.0%) or standard glycemic control (SGC; HbA1c target 7.0 – 7.9%). Using analysis of mean HbA1c, we examined relationships between glycemic control and incident/recurrent LEA during the clinical trial/follow-up.

Results

Mean post-randomization HbA1c over the course of the trial and post-trial follow-up was $7.3 \pm 0.9\%$ ($6.8 \pm 0.8\%$ in the IGC arm, $7.7 \pm 0.7\%$ in the SGC arm). 124 participants had at least one LEA during the study period, 73 randomized to the SGC arm and 51 to the IGC arm ($p = 0.049$). Randomization to IGC was associated with decreased LEA rate (HR 0.69, 95% CI 0.483 – 0.987, $p = 0.042$). In multivariable models, mean HbA1c was a powerful predictor of LEA (HR 2.07 per 1% increase in HbA1c, 95% CI 1.67-2.57, $p < 0.0001$). Post-randomization mean HbA1c remained a strong predictor of LEA after controlling for other important covariates and competing risk of death (HR 1.94 per 1% increase in HbA1c, 95% CI 1.52-2.46, $p < 0.0001$).

Conclusions

In type 2 diabetics, IGC was associated with a reduction in the risk for LEA. After 3.7 years of IGC there was an enduring protective effect against LEA. Improved glycemic control was a strong predictor of decreased risk for subsequent LEA. This study suggests that tight glycemic control, even over a short time period, has potential to reduce risk of limb loss.