

Current Guidelines and RTW Recommendations

Texas Workers' Compensation Conference

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July 11, 2023



RTW

- **Sec. 408.023. LIST OF APPROVED DOCTORS; DUTIES OF TREATING DOCTORS.**

- (l) **The injured employee's treating doctor is responsible for the efficient management of medical care as required by Section 408.025(c) and commissioner rules.** The division shall collect information regarding: (1) return-to-work outcomes; (2) patient satisfaction; and (3) cost and utilization of health care provided or authorized by a treating doctor on the list of approved doctors.
- (m) The commissioner may adopt rules to define the role of the treating doctor and to specify outcome information to be collected for a treating doctor.

- **Sec. 408.025. REPORTS AND RECORDS REQUIRED FROM HEALTH CARE PROVIDERS.**

- (a) The commissioner by rule shall adopt requirements for reports and records that are required to be filed with the division or provided to the injured employee, the employee's attorney, or the insurance carrier by a health care provider.
- (a-1) A treating doctor may delegate to a physician assistant who is licensed to practice in this state under Chapter 204, Occupations Code, or an advanced practice registered nurse who is licensed to practice in this state under Chapter 301, Occupations Code, the authority to complete and sign a work status report regarding an injured employee's ability to return to work. The delegating treating doctor is responsible for the acts of the physician assistant or advanced practice registered nurse under this subsection.
- (b) The commissioner by rule shall adopt requirements for reports and records that are to be made available by a health care provider to another health care provider to prevent unnecessary duplication of tests and examinations.
- **(c) The treating doctor is responsible for maintaining efficient utilization of health care.**
- (d) On the request of an injured employee, the employee's attorney, or the insurance carrier, a health care provider shall furnish records relating to treatment or hospitalization for which compensation is being sought. The division may regulate the charge for furnishing a report or record, but the charge may not be less than the fair and reasonable charge for furnishing the report or record. A health care provider may disclose to the insurance carrier of an affected employer records relating to the diagnosis or treatment of the injured employee without the authorization of the injured employee to determine the amount of payment or the entitlement to payment.


- **Sec. 413.018. REVIEW OF MEDICAL CARE IF GUIDELINES EXCEEDED.**

- (a) The commissioner by rule shall provide for the periodic review of medical care provided in claims in which guidelines for expected or average return to work time frames are exceeded.
- (b) The division shall review the medical treatment provided in a claim that exceeds the guidelines and may take appropriate action to ensure that necessary and reasonable care is provided.
- **(c) The division shall implement a program to encourage employers and treating doctors to discuss the availability of modified duty to encourage the safe and more timely return to work of injured employees.** The division may require a treating or examining doctor, on the request of the employer, insurance carrier, or division, to provide a functional capacity evaluation of an injured employee and to determine the employee's ability to engage in physical activities found in the workplace or in activities that are required in a modified duty setting.

Job Description

- Request for a formal job descriptions from the employer!
 - Volunteers for emergency assignments?
- Review the job description
 - Understand the essential tasks of the injured worker's job
 - Be aware of working around hazardous machinery/equipment, height, operating moving vehicles, and extreme weather conditions.
- Does the patient have more than one job? Or assignment?
- Individual assessment of the worker's medical diagnosis and job requirements.

Job Description and DWC Form 073



Employee - You are required to report your injury to your employer within 30 days if your employer has workers' compensation insurance. You have the right to free assistance from the Texas Department of Insurance, Division of Workers' Compensation (DWC) and may be entitled to certain medical and income benefits. For further information call DWC at 800-252-7031.

Empleado - Es requerido que usted reporte su lesión a su empleador dentro de 30 días si es que su empleador cuenta con un seguro de compensación para trabajadores. Usted tiene derecho a recibir asistencia gratuita por parte del Departamento de Seguros de Texas, División de Compensación para Trabajadores (DWC), y es posible que tenga derecho a recibir ciertos beneficios médicos y de ingresos. Para obtener más información llame a DWC al 800-252-7031.

DWC073

Texas Workers' Compensation Work Status Report

I. GENERAL INFORMATION		Date Sent (for transmission purposes only):	
1. Injured Employee's Name	5a. Doctor's/Delegating Doctor's Name and Degree	5b. PA / APRN Name (if completing form)	
2. Date of Injury	3. Social Security Number (last four) XXX-XX-	6. Facility Name	9. Employer's Name
4. Employee's Description of Injury/Accident	7. Facility/Doctor Phone and Fax Numbers		10. Employer's Fax Number or Email Address (if known)
	8. Facility/Doctor Address (Street, City, State, ZIP Code)		11. Insurance Carrier
			12. Carrier's Fax Number or Email Address (if known)

II. WORK STATUS INFORMATION (Fully complete one box including estimated dates, and a description in 13c, if applicable)

13. The injured employee's medical condition resulting from the workers' compensation injury:

a) will allow the employee to return to work as of ___/___/___ without restrictions; OR

b) will allow the employee to return to work as of ___/___/___ with the restrictions identified in PART III, which are expected to last through ___/___/___; OR

c) has prevented and still prevents the employee from returning to work as of ___/___/___ and is expected to continue through ___/___/___.

The following describes how this injury prevents the employee from returning to work:

III. ACTIVITY RESTRICTIONS (Only complete if box 13b is checked)

14. Posture Restrictions (if any):	17. Motion Restrictions (if any):	19. Misc. Restrictions (if any):
Max hours per day 0 2 4 6 8 Other: _____	Max hours per day 0 2 4 6 8 Other: _____	Max hours per day of work: _____
Standing <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	Walking <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> Sit/stretch breaks of _____ per _____
Sitting <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	Climbing stairs/ladders <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> Must wear splint/cast at work
Kneeling/squatting <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	Grasping/squeezing <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> Must use crutches at all times
Bending/stooping <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	Wrist flexion/extension <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> No driving/operating heavy equipment
Pushing/pulling <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	Reaching <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> Can only drive automatic transmission
Twisting <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	Overhead reaching <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> No skin contact with: _____
Other: _____	Keyboarding <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> No running
	Other: _____	<input type="checkbox"/> Dressing changes necessary at work
15. Restrictions Specific To (if applicable):	18. Lift/Carry Restrictions (if any):	20. Medication Restrictions (if any):
<input type="checkbox"/> Left hand/wrist <input type="checkbox"/> Left leg	<input type="checkbox"/> No lift/carry objects more than ___ lbs. for more than ___ hours per day.	<input type="checkbox"/> Must take prescription medication(s)
<input type="checkbox"/> Right hand/wrist <input type="checkbox"/> Right leg	<input type="checkbox"/> May not perform any lifting/carrying.	<input type="checkbox"/> Advised to take over-the-counter meds
<input type="checkbox"/> Left arm <input type="checkbox"/> Back	Other: _____	<input type="checkbox"/> Medication may make drowsy (possible safety/driving issues)
<input type="checkbox"/> Right arm <input type="checkbox"/> Left foot/ankle		
<input type="checkbox"/> Neck <input type="checkbox"/> Right foot/ankle		
Other: _____		
16. Other Restrictions (if any)		

Safety-sensitive Industries

- **Safety-sensitive Industries**
- **Department of Transportation Rules and Regulations**
- The [Omnibus Transportation Employee Testing Act of 1991](#) is the most important piece of federal legislation affecting safety-sensitive industries. The act requires drug and alcohol testing of all safety-sensitive transportation employees in aviation, trucking, railroads, mass transit, pipelines, and other transportation industries.
- Any employer whose business is regulated by one of the following federal agencies and organizations is covered under the act:
 - [Federal Aviation Administration \(FAA\)](#)
 - [Federal Motor Carrier Safety Administration \(FMCSA\)](#)
 - [Federal Railroad Administration \(FRA\)](#)
 - [Federal Transit Administration \(FTA\)](#)
 - [National Highway Traffic Safety Administration \(NHTSA\)](#)
 - [Pipeline and Hazardous Materials Safety Administration \(PHMSA\)](#)
 - [U.S. Coast Guard](#)

FMCSA Safety-Sensitive Position Definition

- For the FMCSA, all drivers “who operate a commercial motor vehicle in commerce in any State” are safety-sensitive employees.
- A safety-sensitive position refers to a job in which the employee is responsible for his or her own or other people's safety.
 - If an incident occurs, there can be serious harms to the employee, his/her coworkers, the public at large, or property.

FAA Safety-Sensitive Position

- In their definition in [14 CFR Part 120](#), the FAA lists nine safety-sensitive functions as well as the types of employee's subject.
- The safety-sensitive functions are as follows:
- Flight crew member duties
- Flight attendant duties
- Aircraft dispatcher duties
- Flight instruction duties
- Aircraft maintenance or preventive maintenance duties
- Ground security coordinator duties
- Aviation screening duties
- Air traffic control duties
- Operations control specialist duties

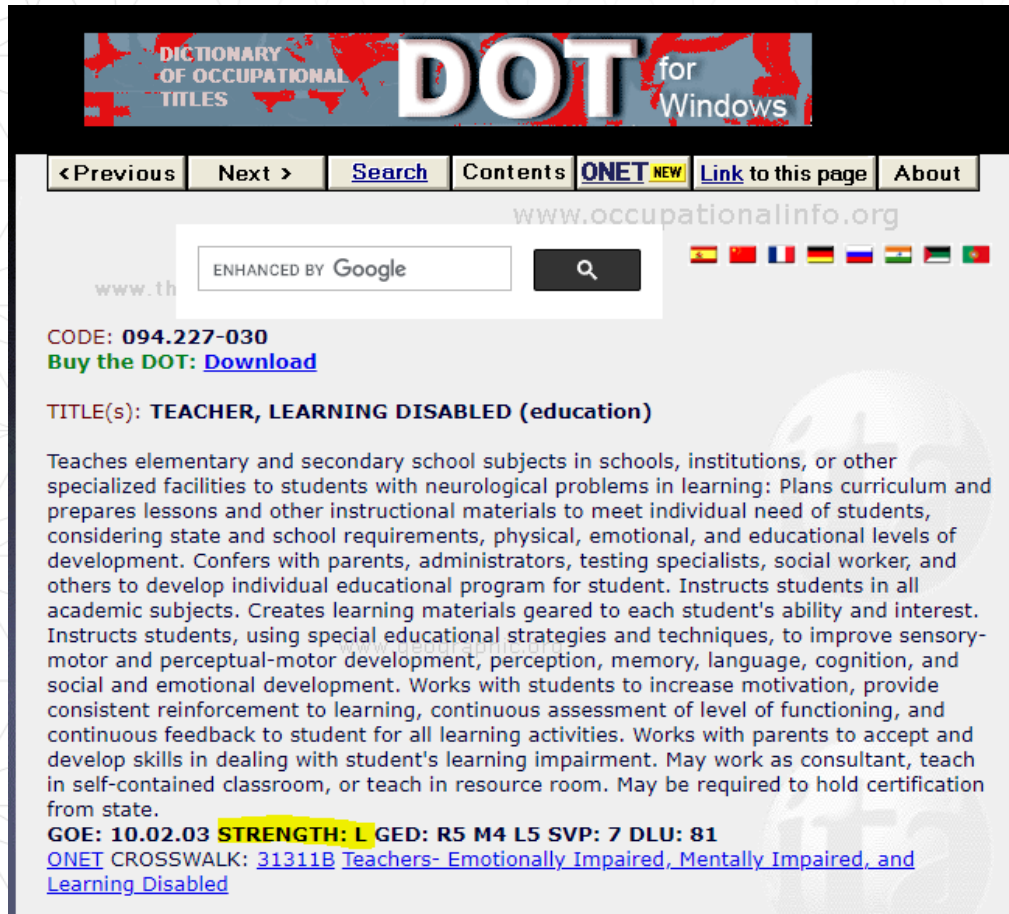
Safety-Sensitive Position

- The [Omnibus Transportation Employee Testing Act of 1991](#) is the most important piece of federal legislation affecting safety-sensitive industries. **The act requires drug and alcohol testing of all safety-sensitive transportation employees in aviation, trucking, railroads, mass transit, pipelines, and other transportation industries.**
- A safety-sensitive position refers to a job in which the employee is responsible for his or her own or other people's safety.
- Be knowledgeable of the patient's complete list medications and co-morbidities.
 - Case Example: 43 y.o. male with chronic, non-work related LBP on high dose of opioids being released to RTW for a work-related ankle sprain, full-duty, safety sensitive position.
 - You received a DWC Form 073 for RTW without restrictions. What should you do?

Dictionary of Occupational Titles

- <https://occupationalinfo.org/>
- This is the complete Dictionary of Occupational Titles (DOT) revised fourth edition, as supplied electronically by the US Dept. of Labor
- Job descriptions
- Physical demands (Strength rating): Sedentary, Light, Medium, Heavy, Very Heavy.

Dictionary of Occupational Titles



DICTIONARY OF OCCUPATIONAL TITLES DOT for Windows

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www.occupationalinfo.org

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TITLE(s): TEACHER, LEARNING DISABLED (education)

Teaches elementary and secondary school subjects in schools, institutions, or other specialized facilities to students with neurological problems in learning: Plans curriculum and prepares lessons and other instructional materials to meet individual need of students, considering state and school requirements, physical, emotional, and educational levels of development. Confers with parents, administrators, testing specialists, social worker, and others to develop individual educational program for student. Instructs students in all academic subjects. Creates learning materials geared to each student's ability and interest. Instructs students, using special educational strategies and techniques, to improve sensory-motor and perceptual-motor development, perception, memory, language, cognition, and social and emotional development. Works with students to increase motivation, provide consistent reinforcement to learning, continuous assessment of level of functioning, and continuous feedback to student for all learning activities. Works with parents to accept and develop skills in dealing with student's learning impairment. May work as consultant, teach in self-contained classroom, or teach in resource room. May be required to hold certification from state.

GOE: 10.02.03 STRENGTH: L GED: R5 M4 L5 SVP: 7 DLU: 81
ONET CROSSWALK: [31311B Teachers- Emotionally Impaired, Mentally Impaired, and Learning Disabled](#)

Dictionary of Occupational Titles

- Following are descriptions of the five terms in which the Strength Factor is expressed:

S-Sedentary Work - Exerting up to 10 pounds of force occasionally (Occasionally: activity or condition exists up to 1/3 of the time) and/or a negligible amount of force frequently (Frequently: activity or condition exists from 1/3 to 2/3 of the time) to lift, carry, push, pull, or otherwise move objects, including the human body. Sedentary work involves sitting most of the time but may involve walking or standing for brief periods of time. Jobs are sedentary if walking and standing are required only occasionally and all other sedentary criteria are met.

L-Light Work - Exerting up to 20 pounds of force occasionally, and/or up to 10 pounds of force frequently, and/or a negligible amount of force constantly (Constantly: activity or condition exists 2/3 or more of the time) to move objects. Physical demand requirements are in excess of those for Sedentary Work. Even though the weight lifted may be only a negligible amount, a job should be rated Light Work: (1) when it requires walking or standing to a significant degree; or (2) when it requires sitting most of the time but entails pushing and/or pulling of arm or leg controls; and/or (3) when the job requires working at a production rate pace entailing the constant pushing and/or pulling of materials even though the weight of those materials is negligible. NOTE: The constant stress and strain of maintaining a production rate pace, especially in an industrial setting, can be and is physically demanding of a worker even though the amount of force exerted is negligible.

M-Medium Work - Exerting 20 to 50 pounds of force occasionally, and/or 10 to 25 pounds of force frequently, and/or greater than negligible up to 10 pounds of force constantly to move objects. Physical Demand requirements are in excess of those for Light Work.

H-Heavy Work - Exerting 50 to 100 pounds of force occasionally, and/or 25 to 50 pounds of force frequently, and/or 10 to 20 pounds of force constantly to move objects. Physical Demand requirements are in excess of those for Medium Work.

V-Very Heavy Work - Exerting in excess of 100 pounds of force occasionally, and/or in excess of 50 pounds of force frequently, and/or in excess of 20 pounds of force constantly to move objects. Physical Demand requirements are in excess of those for Heavy Work.

Work Status Report (DWC Form-073)

- Treating Doctor's role
- Specify the injured employee's abilities to RTW
- **Don't wait till MMI**
- Inform insurance carrier, employer, and injured employee

When to File Form-073

Type of Doctor	When to File DWC Form-073
Treating Doctor Referral Doctor Delegated Physician Assistant (PA) or Delegated Advanced Practice Registered Nurse (APRN)	<ul style="list-style-type: none"> • after the initial examination of the injured employee, regardless of the employee's work status • when there is a change in the injured employee's work status • when there is a substantial change in the injured employee's activity restrictions • on a schedule requested by the insurance carrier as long as it is based on the injured employee's scheduled appointments with the doctor (not to exceed one report every two weeks)
	<ul style="list-style-type: none"> • after receiving a set of functional job descriptions from the employer or insurance carrier listing modified duty positions, including the physical and time requirements of the positions, that the employer has available for the injured employee to work • after receiving a DWC Form-073 from a required medical exam (RME) doctor that indicates the injured employee can return to work with or without restrictions
Designated Doctor	<ul style="list-style-type: none"> • after examination of an injured employee to address any question relating to return to work <p>NOTE: The designated doctor must file a narrative report along with DWC Form-073.</p>
RME Doctor	<ul style="list-style-type: none"> • after examination of an injured employee (subsequent to a Designated Doctor's examination), if the RME doctor determines that the injured employee can return to work immediately with or without restrictions

RTW

- Employer does not have job for the injured employee?
- It is not the health care provider's responsibility to ensure that the employer has a modified duty position that meets those restrictions.

Set expectations

- “Studies have shown that the odds for return to full employment drop to 50/50 after 6 months of absence. Even less encouraging is the finding that the odds of a worker ever returning to work drop 50% by just the 12th week.”
- (Preventing Needless Work Disability by Helping People Stay Employed. JOEM. V48, No. 9, 09/2006 972-987)

Texas Workforce Commission

Texas Workforce Commission: Vocational Rehabilitation Services

Provides services for eligible adults with disabilities to help them prepare for, obtain, retain or advance in employment.

TWC Vocational Rehabilitation Inquiries

Call: 800-628-5115

Email: customers@twc.state.tx.us.

Workplace Interventions on Low Back Pain

- 14 RCT articles were included in the review and meta-analysis
- The total number of participants in all the studies was 3197, divided into 1837 in the study group and 1360 in the control group.
- Patients' ages ranged from 29.6 to 52 years in the study groups, and from 26.6 to 51 in the control groups.
- Nursing assistants or healthcare workers in six studies (43%)
- Office workers in two studies (14%)
- Employees in the automotive industry in one study (7%)
- Workers at a manufacturing company in one study (7%)
- Physically demanding workers in one study (7%)
- Workers (without specification of the type of job) in three studies (22%).

The Effects of Workplace Interventions on Low Back Pain in Workers: A Systematic Review and Meta-Analysis. *Int. J. Environ Res Public Health*. 2021 Dec; 18(23): 12614.

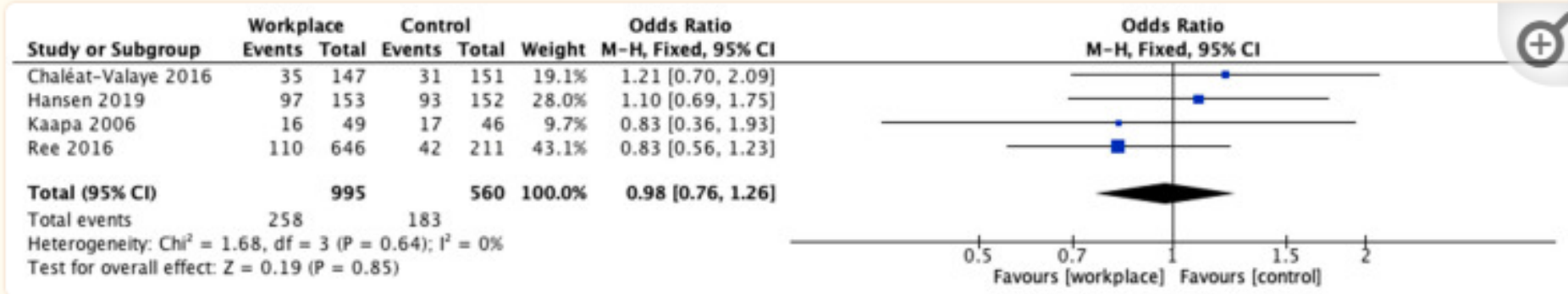
Workplace Interventions on Low Back Pain

Workplace intervention protocols including multidisciplinary interventions consisted of a combination of the following programs:

- Work-related evaluation and a workplace assessment with work modifications (four studies)
- Educational program and ergonomic posture training sessions (six studies)
- Supervised intervention of exercise sessions of muscle strengthening, flexibility, segmental stabilization, and endurance training on the workplace (six studies)
- Behavioral counseling and cognitive-behavioral therapy for LBP or stress self-management (two studies).
- The mean follow-up was 11.3 months and ranged from 3 to 24 months.

The Effects of Workplace Interventions on Low Back Pain in Workers: A Systematic Review and Meta-Analysis. Int. J. Environ Res Public Health. 2021 Dec; 18(23): 12614.

Workplace Interventions on Low Back Pain



[Figure 3](#)

Participants on sick leave.

- **No statistical significance** on the number of workers who went on sick leave.

The Effects of Workplace Interventions on Low Back Pain in Workers: A Systematic Review and Meta-Analysis. *Int. J. Environ Res Public Health*. 2021 Dec; 18(23): 12614.

Workplace Interventions on Low Back Pain

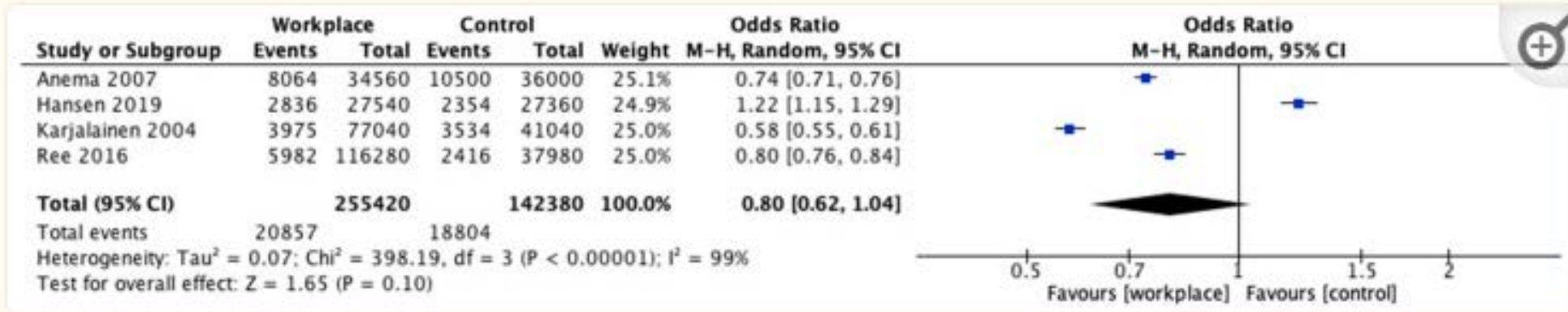


Figure 4

Days of sick leave.

- **No statistical significance** on the number of days of sick leave.

The Effects of Workplace Interventions on Low Back Pain in Workers: A Systematic Review and Meta-Analysis. *Int. J. Environ Res Public Health*. 2021 Dec; 18(23): 12614.

Workplace Interventions on Low Back Pain

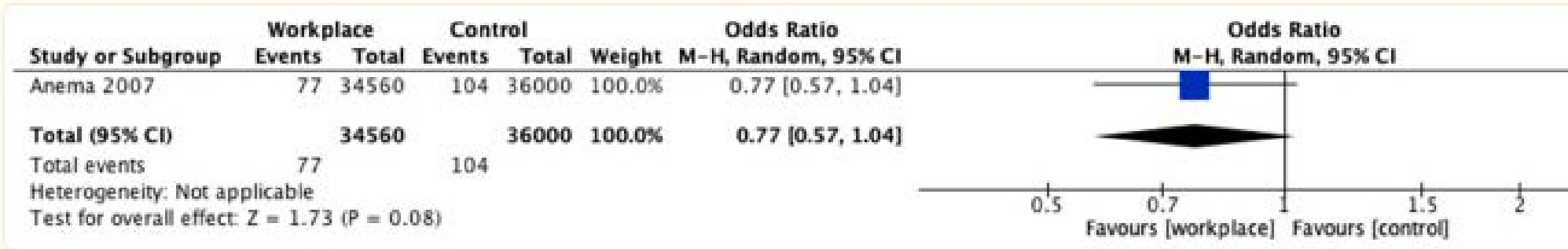


Figure 5

Return to work.

- **No statistical significance** of the RTW status.

The Effects of Workplace Interventions on Low Back Pain in Workers: A Systematic Review and Meta-Analysis. *Int. J. Environ Res Public Health*. 2021 Dec; 18(23): 12614.

Workplace Interventions on Low Back Pain

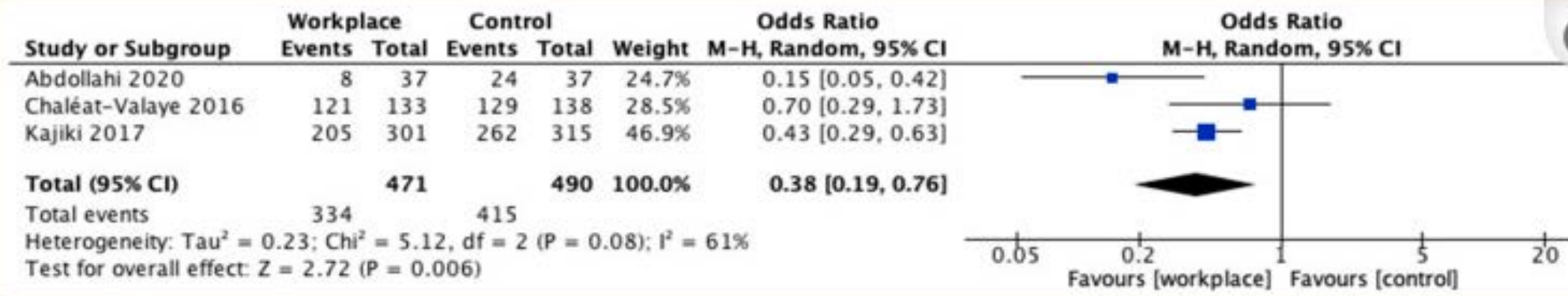


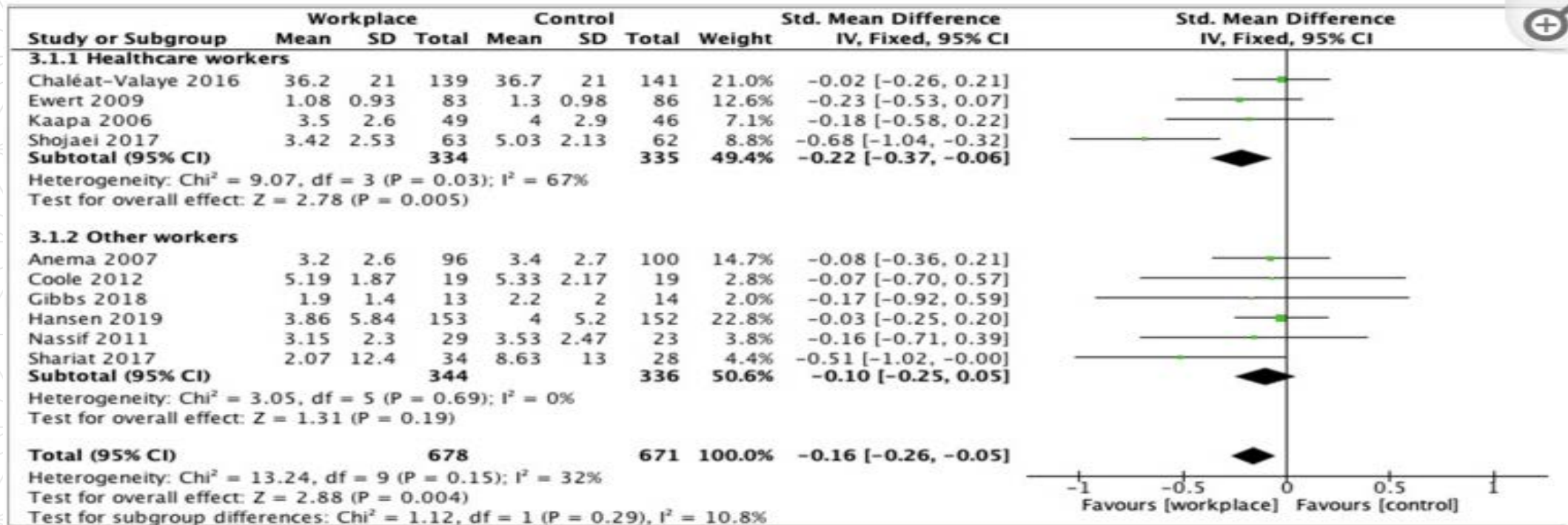
Figure 6

Low back pain recurrence.

- Low back pain recurrence was statistically significant.

The Effects of Workplace Interventions on Low Back Pain in Workers: A Systematic Review and Meta-Analysis. *Int. J. Environ Res Public Health*. 2021 Dec; 18(23): 12614.

Workplace Interventions on Low Back Pain



- Low back pain effect was **statistically significant for healthcare workers in subgroup analysis.**

The Effects of Workplace Interventions on Low Back Pain in Workers: A Systematic Review and Meta-Analysis. *Int. J. Environ Res Public Health*. 2021 Dec; 18(23): 12614.

Depression and RTW

Interventions to improve return to work in depressed people. Cochrane Database Syst. Rev. 2020 Oct 13;10(10):CD006237

Uses RCT studies- 22

Work-Directed Interventions

- Reducing work hours
- Changing tasks
- Light duty
- Graded work exposure

Clinical Interventions

- Usual treatments
- Psychological/Psychiatric treatment
- Antidepressants

Depression and RTW

- A combination of a work-directed interventions and a clinical interventions **probably reduces sickness absence days within the first year of follow-up** (SMD -0.25, 95% CI -0.38 to -0.12; 9 studies; moderate-certainty evidence).
- This translates back to 0.5 fewer (95% CI -0.7 to -0.2) sick leave days in the past two weeks or 25 fewer days during one year (95% CI -37.5 to -11.8).
- The data beyond one year follow-up (RR 1.08, 95% CI 0.64 to 1.83; 2 studies, high-certainty evidence) is **not significant**.

Interventions to improve return to work in depressed people. Cochrane Database Syst. Rev. 2020 Oct 13;10(10):CD006237

Depression and RTW

- Psychological interventions
- A psychological intervention, either face-to-face, or an E-mental health intervention, with or without professional guidance, **may reduce** the number of sickness absence days, compared with care as usual (SMD -0.15, 95% CI -0.28 to -0.03; 9 studies, low-certainty evidence). It **may also reduce** depressive symptoms (SMD -0.30, 95% CI -0.45 to -0.15, 8 studies, low-certainty evidence).
- It is uncertain whether these psychological interventions improve work ability (SMD -0.15 95% CI -0.46 to 0.57; 1 study; very low-certainty evidence). **Not statistically significant**

Interventions to improve return to work in depressed people. Cochrane Database Syst. Rev. 2020 Oct 13;10(10):CD006237

Depression and RTW

- Psychological intervention combined with antidepressant medication.
- Two studies compared the effect of a psychological intervention combined with antidepressants to antidepressants alone.
 - One study combined psychodynamic therapy with tricyclic antidepressant (TCA) medication and another combined telephone-administered cognitive behavioral therapy (CBT) with a selective serotonin reuptake inhibitor (SSRI).
 - It is uncertain if this intervention reduces the number of sickness absence days (SMD -0.38, 95% CI -0.99 to 0.24; 2 studies, very low-certainty evidence) but found that there may be no effect on depressive symptoms (SMD -0.19, 95% CI -0.50 to 0.12; 2 studies, low-certainty evidence).
 - **Not statistically significant**

Interventions to improve return to work in depressed people. Cochrane Database Syst. Rev. 2020 Oct 13;10(10):CD006237

Depression and RTW

- Antidepressant medication only
- Three studies compared the effectiveness of SSRI to selective norepinephrine reuptake inhibitor (SNRI) medication on reducing sickness absence.
- Findings are highly inconsistent.

Interventions to improve return to work in depressed people. Cochrane Database Syst. Rev. 2020 Oct 13;10(10):CD006237

Depression and RTW

- **Exercise**
- Supervised strength exercise **may reduce sickness absence**, compared to relaxation (SMD -1.11; 95% CI -1.68 to -0.54; one study, low certainty evidence).
- Aerobic exercise probably is not more effective than relaxation or stretching (SMD -0.06; 95% CI -0.36 to 0.24; 2 studies, moderate-certainty evidence).
 - Both studies found no differences between the two interventions in depressive symptoms.

Interventions to improve return to work in depressed people. Cochrane Database Syst. Rev. 2020 Oct 13;10(10):CD006237

RTW Interventions for Work-Related Mental Disorders

- 28 studies (19 RCT trials, 9 quasi-experimental studies (lack random assignment))
- Work- Related Diagnoses: **Stress, PTSD, Depression, Anxiety, Burnout, and Adjustment Disorder**
- **Interventions:**
 - Health-Focused (CBT, psychotherapy, OT)
 - Service Coordination (Help facilitate RTW process: Communication between employee and supervisor, RTW plans, case management, education, training)
 - Work Modifications (Adjust work tasks or work hours)
 - Multiple Domains (≥ 2 intervention domains)

Evaluating the Effectiveness of Return-to-Work Interventions for Individuals with Work-Related Mental Health Conditions: A Systematic Review and Meta-Analysis. *Healthcare*. 2023 May; 11(10): 1403.

RTW Interventions for Work-Related Mental Disorders

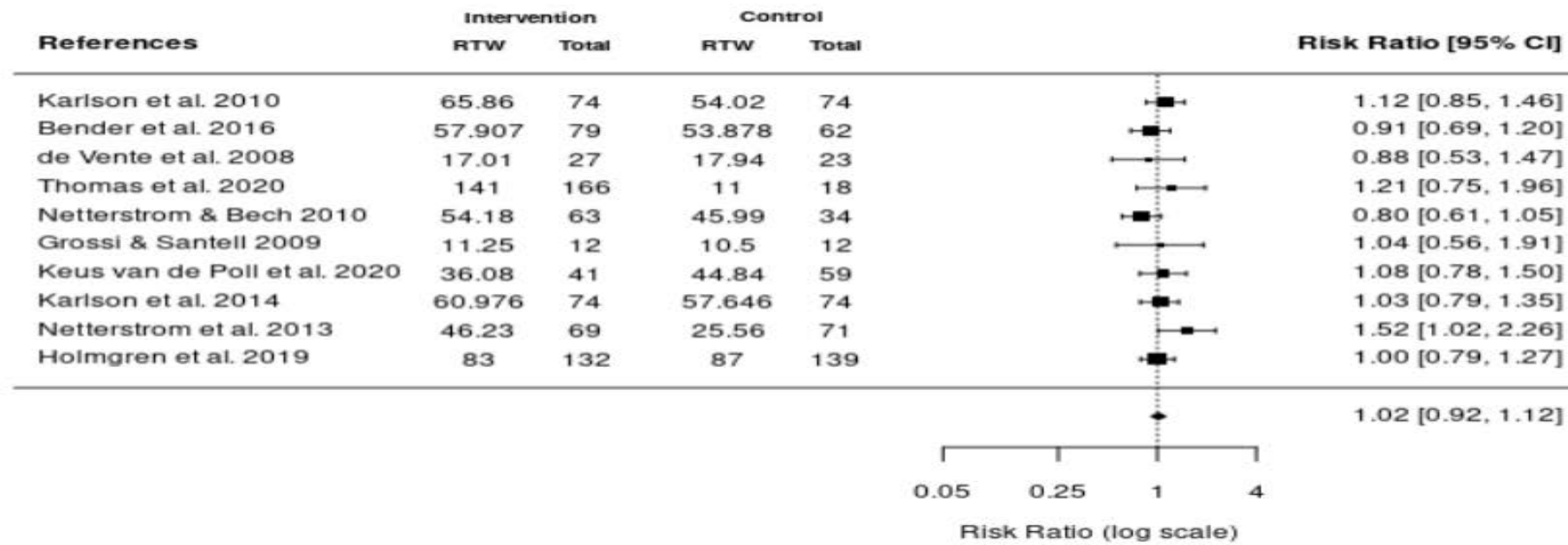


Figure 2. Forest plot of the effectiveness of RTW intervention studies on RTW rates [17–25,40].

Not statistically significant

Evaluating the Effectiveness of Return-to-Work Interventions for Individuals with Work-Related Mental Health Conditions: A Systematic Review and Meta-Analysis. *Healthcare*. 2023 May; 11(10): 1403.

RTW Interventions for Work-Related Mental Disorders

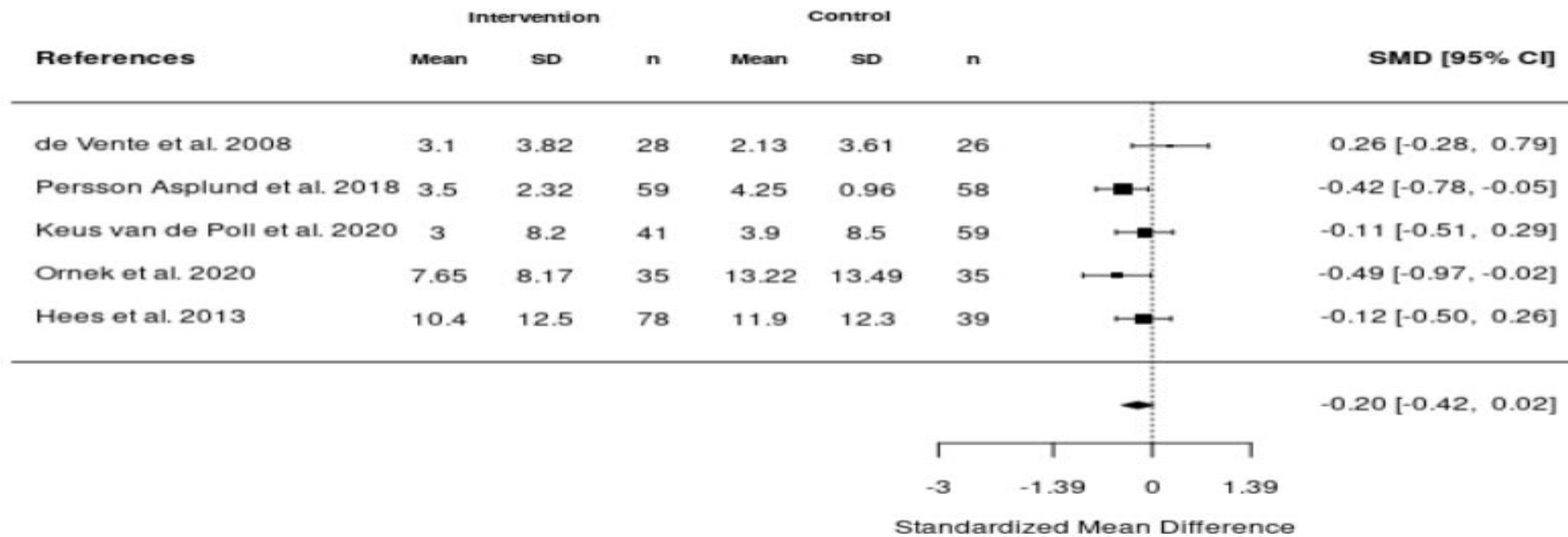


Figure 3. Forest plot of the impact of RTW interventions on absenteeism [21,25,35,44,49].

Not statistically significant

Evaluating the Effectiveness of Return-to-Work Interventions for Individuals with Work-Related Mental Health Conditions: A Systematic Review and Meta-Analysis. *Healthcare*. 2023 May; 11(10): 1403.

RTW Interventions for Work-Related Mental Disorders

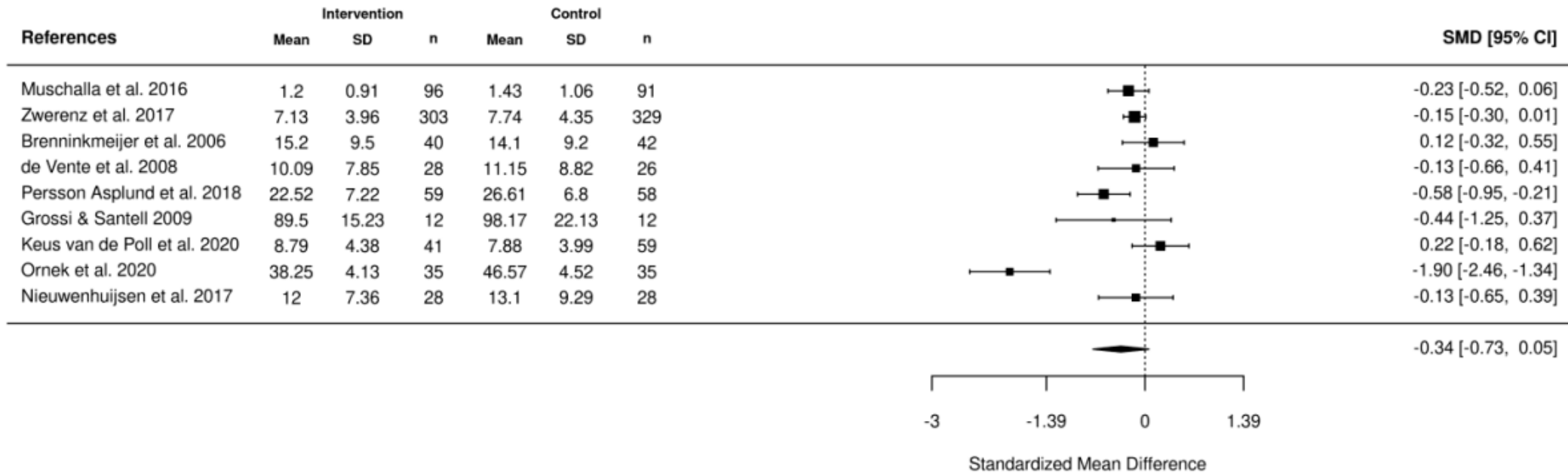


Figure 4. Forest plot of the impact of the RTW interventions on stress [1,21,24,25,36,41,45,48,49].

- Not statistically significant

Evaluating the Effectiveness of Return-to-Work Interventions for Individuals with Work-Related Mental Health Conditions: A Systematic Review and Meta-Analysis. *Healthcare*. 2023 May; 11(10): 1403.

RTW Interventions for Work-Related Mental Disorders

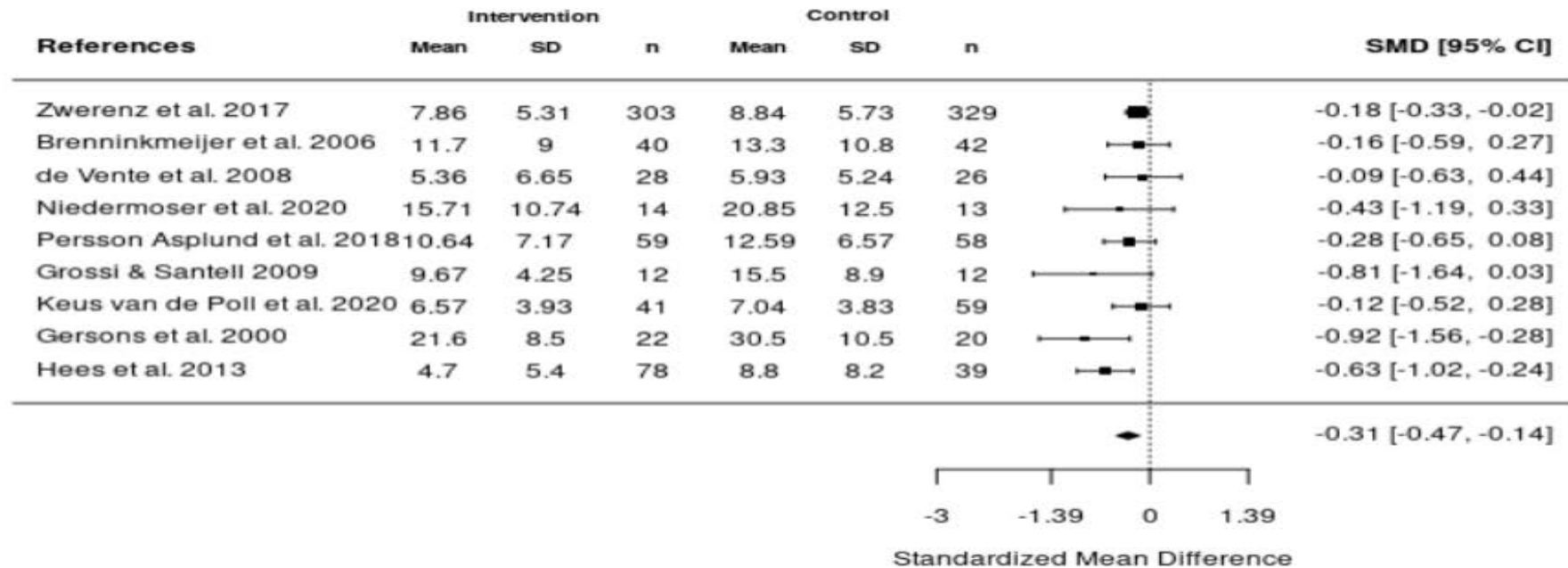


Figure 5. Forest plot of the impact of RTW interventions on depression [9,21,24,25,34,37,45,48,49].

- Statistically Significant but the effect is small

Evaluating the Effectiveness of Return-to-Work Interventions for Individuals with Work-Related Mental Health Conditions: A Systematic Review and Meta-Analysis. *Healthcare*. 2023 May; 11(10): 1403.

Acute LBP: Opioids Prescribing & Length of Disability

- Early Opioids Prescribing (EOP) in the [first 2 weeks](#) of uncomplicated LBP onset
- LOD duration: [1 year and 2 year](#) follow up time.
- A total of [six studies](#) were included in this systematic review
- All included studies collected data from [WC administrative databases](#) and used a retrospective cohort design.
- Five studies were performed in the United States (US) [15,17,30,36,37], and one was performed in Canada [38]
- The total number of individuals with LBP was 178,130 with a sample size ranging between 2887 and 59,656.
- The mean age of participants ranged from 37 to 41 years.
- All studies included more men than women with proportions ranging between 62% and 72%

The Association between Early Opioids Prescribing and the Length of Disability in Acute Lower Back Pain: A Systematic Review and Narrative Synthesis. Int. J Environ Res Public Health. 2022 Oct; 19(19): 12114.

Acute LBP: Opioids Prescribing & Length of Disability

Table 1. Characteristics of included studies.

Study	Setting and Data Source	Sample Size	Population
Gasper 2021 [36]	WC administrative database: California's Department of Industrial Relations WC Information System	59,656 cases with acute LBP from 2009 to 2018	Mean age = 41 years, (SD = 12); 66.1% men
Shraim 2019 [37], 2015 [15]	WC administrative database: a single private insurer representing approximately 10% of the U.S. private WC market	59,360 cases with acute LBP from 2002 to 2008	Mean age = 39.4 years, SD = 10.8, 69.1% men
Lee 2016 [30]	WC administrative database: a single private insurer representing approximately 10% of the U.S. private WC market	2887 cases with acute LBP from 2009 to 2011	Mean age = 41 years, 61.7% men
Gross 2009 [38]	WC administrative database: WC board of Alberta	47,784 cases from 2000 to 2005 with acute LBP	Mean age = 37 years, SD = 12, about 67.7% men
Webster 2007 [17]	WC administrative database: a single private insurer representing approximately 10% of the U.S. private WC market	8443 cases with acute LBP from 2002 to 2003	Mean age = 40.3 years, SD = 10.4, 71.8% men

LBP: low back pain; SD: Standard Deviation; WC: Workers' Compensation.

The Association between Early Opioids Prescribing and the Length of Disability in Acute Lower Back Pain: A Systematic Review and Narrative Synthesis. *Int. J Environ Res Public Health*. 2022 Oct; 19(19): 12114.

Acute LBP: Opioids Prescribing & Length of Disability

Table 2. Quality assessment of studies using the Newcastle–Ottawa scale.

Study	Selection	Comparability	Outcome	Total Quality Score
Gasper 2021 [36]	****		***	7
Shraim 2019 [37]	****	**	***	9
Lee 2016 [30]	****	**	***	9
Shraim 2015 [15]	****	**	***	9
Gross 2009 [38]	****	*	***	8
Webster 2007 [17]	****	**	***	9

Number of stars = score (* = 1, ** = 2, *** = 3, **** = 4).

The Association between Early Opioids Prescribing and the Length of Disability in Acute Lower Back Pain: A Systematic Review and Narrative Synthesis. *Int. J Environ Res Public Health*. 2022 Oct; 19(19): 12114.

Acute LBP: Opioids Prescribing & Length of Disability

- Only five studies presented adjusted associations between EOP and LOD [15,17,30,37,38].
- Of these five studies, four studies found statistically significant associations between EOP and LOD [15,17,37,38], with one study showing a dose–response relationship between MEA and LOD duration at two years of follow-up [17].

Webster 2007 [17]

MEA

Adjusted for age, gender, job tenure, and lower back injury severity group.

As compared to subjects who did not receive EOP, subjects who received EOP had increased mean LOD days with increasing MEA dosage: 5.2 days (95% CI –14.6, 25.0) for 1–140 mg, 21.9 days (95% CI 3.2, 40.6) for 141–225 mg, 43.8 days (95% CI 23.7, 63.9) for 226–450 mg, and 69.1 (95% CI 49.3, 89.0) for 450+ mg.

CI: confidence interval; EOP: early opioid prescribing; LOD: length of disability; MEA: Morphine Equivalent Amount; MRI: Magnetic Resonance Imaging.

The Association between Early Opioids Prescribing and the Length of Disability in Acute Lower Back Pain: A Systematic Review and Narrative Synthesis. *Int. J Environ Res Public Health*. 2022 Oct; 19(19): 12114.

Effectiveness of Antidepressants for Adults with TBI

- Systematic reviews (with or without meta-analyses) of the **effectiveness of pharmacotherapy** for post **TBI depression**.
- Systematic reviews including both RCT and non-RCT (e.g., cohort studies, case-control studies) and meta-analyses were included.
- **Six drug classes (MAOIs, TCAs, SSRIs, SNRIs, stimulants and anti-convulsants)** and 10 individual drugs were examined across the 22 reviews (Table 3).
- The majority of reviews **did not specify the follow up time point (n=15/22)**
- **One study in the reviews examined outcomes post drug cessation**, with outcomes assessed 7 days and again at 21 days post intervention (Newburn et al., 1999).
- **Harms were not mentioned in half of the reviews (n=11/22)**

Effectiveness of Pharmacotherapy for Depression after Adult Traumatic Brain Injury: an Umbrella Review. Neuropsychol Rev. 2023 Jun;33(2):393-431.

Effectiveness of Antidepressants for Adults with TBI

Table 4 Summary of Meta-Analysis Findings from the 10 Meta-Analyses in the Umbrella Review

Review	# Study Designs	Sample Size	Injury Severity	Time Post Injury ^a	Intervention	Depression – Findings Favouring Drug	Depression – Findings Not in Favour Drug	Harms
					SSRI			
Beedham (2020)	5 x RCT	111	Mild – Mod; NR =1	NR	Dose & Freq NR Sertraline (n=4) 4wks-6mths Escitalopram (n=1) 12wks		HAM-D (n=3); PHQ-9 (n=1); MADRS (n=1) Control Comparison - SMD -0.19 95%CI -0.46 to 0.08 p=0.16	NR
Salter (2016)	2 x RCT 2 x non-RCT	136	Mild - Sev	Early - Late	Sertraline (n=3) 25-200mg/day; 4-10wks Citalopram (n=1) 20-50mg/day; 6wks	HAM-D (n=4) Pre-Post - Hedges' g 1.6 95%CI 0.86 to 2.34 p<0.001		NR
Paraschakis (2017)	3 x RCT	160	Mild - Sev	Early - Late	Sertraline (n=2) 25-200mg/day; 10-12wks Citalopram (n=1) 20-50mg/day; 40wks		HAM-D (n=3) Control Comparison; rate of non-responders ^b OR 0.42 95%CI 0.15 to 1.17 p=0.10	NR

Effectiveness of Pharmacotherapy for Depression after Adult Traumatic Brain Injury: an Umbrella Review. *Neuropsychol Rev.* 2023 Jun;33(2):393-431.

Effectiveness of Antidepressants for Adults with TBI

Citalopram								
Beedham (2020)	2 x non-RCT	144	Mild-Mod	NR	Dose & Freq NR; 6-10wks	HAM-D (n=2) Pre-Post - SMD 0.84 95%CI 0.60 to 1.08 p<0.001		NR
Sertraline								
Beedham (2020)	4 x RCT 2 x non-RCT	121	Mild - Mod; NR =1	NR	Dose & Freq NR; 4wk-6mths	HAM-D (n=4); PHQ-9 (n=1); BDI (n=1) Pre-Post - SMD 2.01 95%CI 1.11 to 2.91 p<0.0001		NR
Peppel (2020)	4 x RCT	203	Mild – Sev	Early - Late	25-200mg/day; 4-26wks	HAM-D (n=4) & PHQ-9 (n=1) Control Comparison - SMD -0.393 95%CI -0.78 to -0.004 p=NR	HAM-D (n=1); PHQ-9 (n=1); BDI-II (n=1); SCL-20 (n=1) Control Comparison - SMD -0.293 95%CI -0.75 to 0.17 p=NR	NR
Gao (2019)	3 x RCT	123	Mod – Sev	Early - Late	25-200mg/ Dur NR n=2; 10wks n=1		HAM-D (n=3) Control Comparison - SMD -0.08 95%CI -0.45 to 0.28 p=0.65	NR
Gao (2019)	2 x RCT	154	Mod – Sev	NR	100mg/day; 24wks			Diarrhoea Control Comparison - RR 0.85 95%CI 0.92 to 3.71

Effectiveness of Pharmacotherapy for Depression after Adult Traumatic Brain Injury: an Umbrella Review. *Neuropsychol Rev.* 2023 Jun;33(2):393-431.

Effectiveness of Antidepressants for Adults with TBI

						Sertraline	
Slowinski (2019)	5 x Unclear	NR	NR	NR	Dose, Freq & Dur NR	Unclear (n=5) Pre-Post - Cohen's d -1.02 95%CI -1.76 to -0.28 p=0.004	NR
Yue (2017)	2 x RCT	61	NR for all studies	NR for all studies	25-100mg/day; 4-10wks	HAM-D (n=2) Control Comparison - Hedges' g -0.67 95%CI -1.19 to -0.16 p=0.011	- Increased AEs in TG; type of AE not specified
Paraschakis (2017)	2 x RCT	61	Mild – Sev	Early - Late	25-200mg/day; 4-10wks	HAM-D (n=2) Control Comparison - MD -2.36 95%CI -5.59 to 0.87 p=0.15	NR
Paraschakis (2017)	2 x RCT	140	Mild – Sev	Early - Late	25-200mg/day; 10-12wks	HAM-D (n=2) Control Comparison; rate of non-responders ^b OR 0.28 95%CI 0.08 to 1.03 p=0.05	NR

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Sertraline							
Reyes (2019)	3 x RCT	63	Mild – Sev	Early - Late	25-200mg/day; 4-12wks	HAM-D (n=3) Control Comparison - SMD 2.63 95%CI -1.32 to 6.57 p=0.19	- 10% more AEs (gas, agitation, decreased libido) in TG (ns). - Greater 'autonomic' AEs (gastrointestinal, palpitation, sweating) in TG (p=0.45) - 10% more AEs (gas, agitation, decreased libido) in TG (ns).
Reyes (2019)	2 x RCT	53	Mild – Sev	Early - Late	25-200mg/day; 4-12wks	HAM-D @ 10wks (n=2) Control Comparison; Change Score - SMD 1.27 95%CI -5.59 to 8.13 p=0.72 HAM-D Maier Subscale^c (n=2) Control Comparison - SMD 0.88 95%CI -2.26 to 4.01 p=0.58 HAM-D (n=2) Control Comparison; rate of non responders ^d OR 1.04 95%CI 0.13 to 8.43 p=0.97	

Effectiveness of Pharmacotherapy for Depression after Adult Traumatic Brain Injury: an Umbrella Review. *Neuropsychol Rev.* 2023 Jun;33(2):393-431.

Effectiveness of Antidepressants for Adults with TBI

STIMULANT									
Methylphenidate									
Beedham (2020)	2 x RCT	28	Mild - Mod; NR=1	NR	Dose & Freq NR; 4-30wks	HAM-D (n=2) Pre-Post - SMD 1.81 95%CI 1.17 to 2.45 P<0.0001 Control Comparison - SMD -1.03 95%CI -1.60 to -0.47 p<0.001		NR	
Peppel (2020)	2 x RCT	56	Mild - Mod	Early	5-20mg/day; 4-30wks	HAM-D (n=2) Control Comparison - SMD -0.90 95%CI -1.45 to -0.35 p=0.02		BDI/BDI-II (n=2) Control Comparison - SMD -0.44 95%CI -0.97 to 0.095 p=NR	

Effectiveness of Pharmacotherapy for Depression after Adult Traumatic Brain Injury: an Umbrella Review. *Neuropsychol Rev.* 2023 Jun;33(2):393-431.

Effectiveness of Antidepressants for Adults with TBI

Table 4 (continued)

					TCA		
Salter (2016)	3 x non-RCT	58	Mild - Mod	Early	Amitriptyline (n=2) 100-300mg/day; 4-6wks Desipramine (n=1) 150-300mg/day; 6-8wks	HAM-D (n=3) Pre-Post - Hedges' g 0.93 95%CI 0.63 to 1.24 p<0.001	NR
					Amitriptyline		
Beedham (2020)	2 x non-RCT	23	Minor	NR	Dose & Freq NR; 4-6wks	HAM-D (n=2) Pre-Post - SMD 0.93 95%CI 0.31 to 1.54 p=0.003	NR
Wheaton (2011)	2 x non-RCT	23	Mild	Early	100-300mg/day; 4-6wks	HAM-D (n=2) Pre-Post - Cohen's d 1.00 Min 0.97 Max 1.03	NR

Effectiveness of Pharmacotherapy for Depression after Adult Traumatic Brain Injury: an Umbrella Review. *Neuropsychol Rev.* 2023 Jun;33(2):393-431.

Effectiveness of Antidepressants for Adults with TBI

POOLED FINDINGS ACROSS DRUG CLASSES

Author (Year)	Study Design	N	Severity	Timing	Drugs & Doses	Outcomes & Statistics	Significance
Peppel (2020)	5 x RCT	249	Mild - Sev	Early - Late	Sertraline (n=4) 25-200mg/day; 4-26wks Methylphenidate (n=2) 5-20mg/day; 4-30wks	HAM-D (n=4) & PHQ-9 (n=1) Control Comparison SMD -0.53 95%CI -0.88 to -0.19 p=NR	NR
Kreitzer (2018)	5 x RCT	218	Mild - Sev	Early - Late	Dose & Freq NR Sertraline (n=4) 4-24wks Escitalopram (n=1) 12wks Methylphenidate (n=1) 4wks	HAM-D (n=3); PHQ-9 (n=1) & MADRS (n=1) Control Comparison SMD -0.27 95%CI -0.58 to 0.04 p=NS	NR
Salter (2016)	2 x RCT	71	Mild - Sev	Early - Late	Sertraline (n=2) 25-200mg/day; 4-10wks Methylphenidate (n=1) 5-20mg/day; 4wks	HAM-D (n=2) Control Comparison - SMD 0.84 95%CI 0.314 to 1.366 p=0.002	NR
Beedham (2020)	5 x RCT 7 x non-RCT	306	Mild - Mod; NR =2	NR	Dose & Freq NR Amitriptyline (n=2) 4-6wks Sertraline (n=6) 4wks-6mths Milnacipran (n=1) 6wks Citalopram (n=2) 6-10wks Escitalopram (n=1) 12wks	HAM-D (n=9); PHQ-9 (n=1); BDI (n=1); MADRS (n=1) Pre-Post - SMD 1.53 95%CI 1.03 to 2.04 p<0.0001	NR

Effectiveness of Antidepressants for Adults with TBI

Slowinski (2019)	7 x Clinical trial w control group (unclear if RCT) 5 x non-RCT	NR	NR	NR	Dose, Freq & Dur NR Phenelzine (n=1) Milnacipran (n=1) Citalopram (n=1) Sertraline (n=5) Methylphenidate (n=2) Amitriptyline (n=2) Desipramine (n=1) Citalopram & Carbamazepine (n=1)	HAM-D (n=9) & NR (n=1) Pre-Post - Cohen's d -0.49 (SE 0.24) 95%CI -0.96 to -0.02 p=NR	NR
Slowinski (2019)	7 x Clinical trial w control group (unclear if RCT)	NR	NR	NR	Dose, Freq & Dur NR Phenelzine (n=1) Sertraline (n=4) Methylphenidate (n=2) Amitriptyline (n=2)	NR (n=7) Control Comparison - Cohen's d 0.001 (SE 0.24) 95%CI -0.59 to 0.58 p=NR	NR
Slowinski (2019)	5 x non-RCT	NR	NR	NR	Dose, Freq & Dur NR Milnacipran (n=1) Citalopram (n=1) Sertraline (n=1) Desipramine (n=1) Citalopram & Carbamazepine (n=1)	NR (n=7) Pre-Post - Cohen's d -1.35 95%CI -2.14 to -0.56 p=NR	NR

Effectiveness of Antidepressants for Adults with TBI

Salter (2016)	3 x RCT 5 x non-RCT	139	Mild - Sev	Early - Late	Sertraline (n=3) 25-200mg/day; 4-10wks Citalopram (n=1) 20-50mg/day; 6wks Milnacipran (n=1) 30-150mg/day; 6wks Amitriptyline (n=2) 100-300mg/day; 4-6wks Desipramine (n=1) 150-300mg/day; 6-8wks Methylphenidate (n=1) 5-20mg/day; 4wks Phenelzine (n=1) - 45-90mg/day; 4wks	HAM-D (n=7) & DSM-III-R Checklist (n=1) Pre-Post - Hedges' g 1.169 95%CI 0.849 to 1.489 p<0.001	NR
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Effectiveness of Pharmacotherapy for Depression after Adult Traumatic Brain Injury: an Umbrella Review. *Neuropsychol Rev.* 2023 Jun;33(2):393-431.

Effectiveness of Antidepressants for Adults with TBI

“There is some evidence from reasonably high-quality reviews that pharmacotherapy may be effective for post TBI depression. However, all these meta-analyses were pre-post designs with no control comparison group. Indeed, the single control-comparison meta-analysis, drawn from an intermediate quality review, **did not find in favour of pharmacotherapy.**”

Effectiveness of Pharmacotherapy for Depression after Adult Traumatic Brain Injury: an Umbrella Review. *Neuropsychol Rev.* 2023 Jun;33(2):393-431.

Factors Affect Work Participation In Patients With Sciatica

- Seven studies describing six cohorts (n=1408 patients) that assessed 21 potential prognostic factors.
- Patients who received conservative or surgical treatment for clinically diagnosed sciatica

Systematic review of prognostic factors for work participation in patients with sciatica.
Occup Environ Med.2019 Oct;76(10):772-779.

Factors Affect Work Participation In Patients With Sciatica

Table 1 Study characteristics of the seven included studies

Author, year, country	Population	Inclusion and exclusion criteria	Sample size, complete cases	Prognostic factors and confounders	Outcome, time point, case definition	Analysis	Results
Atlas <i>et al</i> , 2000, USA ²³	Working patients with diagnosed disc herniation, who received conservative or surgical (n=174/327; 53%) treatment, 68% male, mean age 40 years	Inclusion: diagnosed lumbar disc herniation Exclusion: previous spine surgery, cauda equina, spinal or other comorbidity, pregnancy	n=440, n=404 completed at least one follow-up, n=327 completed last follow-up	Receiving workers' compensation, level of education, duration current episode, comorbidity, age, SF-36 general health, low back pain	Return to work; 4-year follow-up; case definition working on a job for pay	Stepwise multiple logistic regression	Receiving workers' compensation OR 0.6 (0.3 to 1.2); age OR 0.7 (0.6 to 0.8); general health OR 1.1 (1.0 to 1.2); low back pain OR 0.8 (0.6 to 0.9), model adjusted for the other variables
Atlas <i>et al</i> , 2006, USA ²⁴	Working patients with sciatica, who received conservative or surgical treatment, 66% male, mean age 40 years	Inclusion: diagnosed lumbar disc herniation Exclusion: cauda equina, spinal or other comorbidity, pregnancy	n=394, who completed at least one follow-up between 5 and 10 years, n=352 completed last follow-up	Age, gender, initial treatment, physician expectation of surgery benefit, Quebec classification, category 4/6, low back frequency score, SF-36 physical function, SF-36 mental health	Return to work; 10 years; case definition employed at follow-up	Stepwise multiple logistic regression	Age OR 0.42 (0.3 to 0.58), male gender OR 0.33 (0.09 to 1.0), initial treatment, surgical OR 1.4 (0.46 to 4.6), Physician expected benefit OR 5.0 (1.65 to 17.7), physical function OR 1.4 (1.1 to 1.8), Quebec classification NS, Low Back Frequency Score NS, mental health NS, model adjusted for independent baseline prognostic factors
den Boer <i>et al</i> , 2006, Netherlands ²⁵	Working patients who underwent lumbar disc surgery, 59% male, mean age 41 years	Inclusion: >18 years, failure of conservative treatment, understand and read Dutch, having a paid job before the episode of complaints started. Exclusion: previous back surgery, physical comorbidity	n=200, n=182 complete cases	Fear of movement/ (re)injury, passive pain coping, physical work load, job satisfaction, duration sick leave Confounders: education, disability presurgery, neurological deficits presurgery, pain 3 days postsurgery	Work capacity, 6 months postsurgery, case definition: percentage work capacity (hours/week) compared with work capacity before the pain episode started=100%	Multiple logistic regression, only variables significant in univariable regression were entered into the model, and prespecified confounders	Fear of movement/ (re)injury OR 1.09 (SE 0.04 calculated 95% CI 1.01 to 1.18), passive pain coping OR 1.08 (SE 0.04, calculated 95% CI 1.0 to 1.17), physical work load OR 1.19 (SE 0.06, calculated 95% CI 1.06 to 1.34), job satisfaction OR 0.98 NS, duration sick leave OR 1.26 NS

Systematic review of prognostic factors for work participation in patients with sciatica. *Occup Environ Med.* 2019 Oct;76(10):772-779.

Factors Affect Work Participation In Patients With Sciatica

Grovle et al, 2013, Norway²⁵

Working patients with sciatica and disc herniation, who underwent conservative or surgical (30%) treatment, 69% male, mean age 44 years

Inclusion: ≥18 years, radiating pain below the knee and/or paresis, lumbar disc herniation
Exclusion: pregnancy, spinal fracture, tumour, infection, previous surgery same disc, not able to read Norwegian

n=297, n=237 included complete cases (n=9 who were student, retired or homemaker at follow-up, were excluded)

Age, gender, marital status, current smoker, duration current sciatica episode > 3 months, had sciatica before, duration back problems > 1 year, subjective health complaints, sciatica bothersomeness, disability, fear avoidance beliefs (work), fear of movement/reinjury, general health, emotional distress back pain, leg pain, positive SLR, motor weakness, reflexes depressed, sensory decrease

Return to work, 2 years; case definition: return to full-time work by self-report

Multiple logistic regression, only variables significant in univariable regression were entered into the model (p values < 0.2)

Age OR 0.97 (0.93 to 1.00), female OR 0.61 (0.31 to 1.22), bothersomeness OR 0.89 (0.82 to 0.97), fear avoidance beliefs OR 0.93 (0.90 to 0.97), general health OR 1.03 (1.01 to 1.05), positive SLR OR 0.44 (0.20 to 0.95)

O'Donnell et al, 2017, USA²⁷

Workers' compensation patients who received reoperation discectomy with or without fusion, 77.2% male, mean age 39.4 years

Inclusion: lumbar disc herniation after workplace injury, receiving lost-work compensation, injuries between 2005 and 2012, same level revision surgery
exclusion: spondylolisthesis, spinal deformity, vertebral fractures, epidural haematomas and abscesses, spinal tumours, smoking history or using smoking deterrents

n=298, n=196 with fusion, retrospective cohort, therefore only complete cases

Revision surgery: fusion or no fusion, age, sex, marital status, labor-intensive occupation, permanent disability benefits, legal representation, psychiatric comorbidities, physical therapy and chiropractic care, opioid analgesic use, household income, permanent disability, time from primary surgery to reoperation surgery

Return to work, 3 years; case definition: ability to return within 2 years and work for at least 6 months within 3 years

Multiple logistic regression

Revision surgery: fusion OR 0.56 (0.33 to 0.97), psychiatric comorbidity before revision surgery OR 0.19 (0.05 to 0.68), opioids use within 1 month of revision surgery OR 0.44 (0.26 to 0.75)

Systematic review of prognostic factors for work participation in patients with sciatica. *Occup Environ Med.* 2019 Oct;76(10):772-779.

Factors Affect Work Participation In Patients With Sciatica

- Seven studies describing six cohorts (n=1408 patients) that assessed 21 potential prognostic factors.
- Patients who received conservative or surgical treatment for clinically diagnosed sciatica

Table 1 continued

Author, year, country	Population	Inclusion and exclusion criteria	Sample size, complete cases	Prognostic factors and confounders	Outcome, time point, case definition	Analysis	Results
Schade <i>et al</i> , 1999, Switzerland ²²	Patients who underwent lumbar disc surgery, 74% male, mean age 35 years (demographic data from Boos <i>et al</i>) ³⁸	Inclusion: a scheduled discectomy, age 20–50 years, continued employment at the time of surgery, no previous back surgery, failed conservative treatment, availability for additional clinical+MRI examination Exclusion: no Swiss residency, rapid progressive severe motor deficit or cauda equina syndrome	n=46, n=42 complete cases	Anxiety, depression, self-control, well-being, vitality, general health, occupational mental stress, job satisfaction, job-related resignation, social support confounders: pain and/or disability presurgery	Return to work, 2 years; case definition: return to 'any' work (time in months)	Univariable regression and stepwise multiple regression (medical data, general psychological factors and psychosocial aspects of work)	Depression beta ln 0.43 (estimated OR 1.54), occupation mental stress beta ln 0.28 (estimated OR 1.32), pain and/or disability presurgery beta ln 0.35 (estimated OR 1.42)
Than <i>et al</i> , 2016, USA ²⁸	Patients who underwent lumbar discectomy, 51% male, mean age 45 years	Inclusion: 18–80 years, symptomatic lumbar disc herniation recalcitrant to non-invasive therapies for at least 6 weeks exclusion: history of previous lumbar spinal surgery at the level of disc herniation; significant motor weakness (such as foot drop) or cauda equina syndrome; cancer, infection or fracture involving any portion of the spine; pregnancy	n=127, n=123 complete cases at 1-year follow-up	Physical function/general health (SF-36 scale), physical function (Oswestry Disability Index), BMI, back pain (VAS), age, sex, insurance type, work status, smoking status, baseline health status measures, self-reported work/disability status	Return to work, 3 months, case definition: employed at 3 months following the lumbar discectomy	Stepwise logistic regression	Age OR 0.92 (0.85 to 0.99), male sex OR 0.22 (0.04 to 1.09), BMI OR 0.90 (0.78 to 1.04), general health OR 1.03 (0.98 to 1.08), physical function OR 1.06 (0.997 to 1.13), smoking status OR 4.37 (0.82 to 23.27)

Systematic review of prognostic factors for work participation in patients with sciatica. *Occup Environ Med.* 2019 Oct;76(10):772-779.

Factors Affect Work Participation In Patients With Sciatica

Table 3 Quality of the evidence and reasons for downgrading (in bold)

Prognostic factor	Follow-up	Population	Study	Risk of bias	Imprecision	Quality
Demographic factors						
Age	2 years	Mixed	Grøvle <i>et al</i> ²⁵	Low	OR 0.97 (0.93 to 1.00); NS	Low
Age	4 years	Mixed	Atlas <i>et al</i> ²³	Low	OR 0.7 (0.6 to 0.8)	Moderate
Age	10 years	Mixed	Atlas <i>et al</i> ²⁴	Moderate	OR 0.42 (0.3 to 0.58); CI crosses 0.5	Very low
Age	3 months	Surgical	Than <i>et al</i> ²⁸	Moderate	OR 0.92 (0.85 to 0.99)	Low
Female sex	2 years	Mixed	Grøvle <i>et al</i> ²⁵	Low	OR 0.61 (0.31 to 1.22); NS	Low
Male sex	10 years	Mixed	Atlas <i>et al</i> ²⁴	Moderate	OR 0.33 (0.09 to 1.0); NS	Very low
Male sex	3 months	Surgical	Than <i>et al</i> ²⁸	Moderate	OR 0.22 (0.04 to 1.09); NS	Very low
General health						
General health	2 years	Mixed	Grøvle <i>et al</i> ²⁵	Low	OR 1.03 (1.01 to 1.05)	Moderate
General health	6 years	Mixed	Atlas <i>et al</i> ²³	Low	OR 1.1 (1.0 to 1.2)	Moderate
General health	3 months	Surgical	Than <i>et al</i> ²⁸	Moderate	OR 1.03 (0.98 to 1.08); NS	Very low
Pain and disability						
Low back pain intensity	4 years	Mixed	Atlas <i>et al</i> ²³	Low	OR 0.8 (0.6 to 0.9)	Moderate
Low back pain frequency	10 years	Mixed	Atlas <i>et al</i> ²⁴	Moderate	No data; NS	Very low
Bothersomeness	2 years	Mixed	Grøvle <i>et al</i> ²⁵	Low	OR 0.89 (0.82 to 0.97)	Moderate
Opioid use within 1 month postoperative	3 years	Surgical	O'Donnell <i>et al</i> ²⁷	Low	OR 0.44 (0.26 to 0.75); CI crosses 0.5	Low
Physical function	10 years	Mixed	Atlas <i>et al</i> ²⁴	Moderate	OR 1.4 (1.1 to 1.8)	Low
Physical function	3 months	Surgical	Than <i>et al</i> ²⁸	Moderate	OR 1.06 (0.997 to 1.13); NS	Very low
Pain/disability presurgery	2 years	Surgical	Schade <i>et al</i> ²²	Moderate	No CI presented; NS; <10 participants/PF	Very low

Systematic review of prognostic factors for work participation in patients with sciatica. *Occup Environ Med.* 2019 Oct;76(10):772-779.

Factors Affect Work Participation In Patients With Sciatica

Psychological factors						
Fear avoidance	2 years	Mixed	Grovsle <i>et al</i> ²⁵	Low	OR 0.93 (0.90 to 0.97)	Moderate
Fear avoidance*	6 months	Surgical	den Boer <i>et al</i> ²⁶	Low	OR 1.09 (1.01 to 1.17)	Moderate
Mental health	10 years	Mixed	Atlas <i>et al</i> ²⁴	Moderate	No data; NS	Very low
Depression*	2 years	Surgical	Schade <i>et al</i> ²²	Moderate	<10 participants/PF	Very low
Psychiatric comorbidity	3 years	Surgical	O'Donnell <i>et al</i> ²⁷	Low	OR 0.19 (0.05 to 0.68); CI crosses 0.5	Low
Occupational mental stress*	2 years	Surgical	Schade <i>et al</i> ²²	Moderate	<10 participants/PF	Very low
Passive pain coping*	6 months	Surgical	den Boer <i>et al</i> ²⁶	Low	OR 1.08 (1.0 to 1.16)	Moderate
Other health-related factors						
Smoking status	3 months	Surgical	Than <i>et al</i> ²⁸	Moderate	OR 4.37 (0.82 to 23.27), NS	Very low
Clinical examination						
Positive SLR-test	2 years	Mixed	Grovsle <i>et al</i> ²⁵	Low	OR 0.44 (0.20 to 0.95)	Moderate
Quebec classification	10 years	Mixed	Atlas <i>et al</i> ²⁴	Moderate	No data; NS	Very low
Care related factors						
Physician expected benefit of surgery	10 years	Mixed	Atlas <i>et al</i> ²⁴	Moderate	OR 5.0 (1.65 to 17.7); CI crosses 2.0	Very low
Initial treatment: surgery	10 years	Mixed	Atlas <i>et al</i> ²⁴	Moderate	OR 1.4 (0.46 to 4.6); NS	Very low
Revision surgery with fusion	3 years	Surgical	O'Donnell <i>et al</i> ²⁷	Low	OR 0.56 (0.33 to 0.97)	Moderate
Work-related factors						
Receiving workers' compensation	4 years	Mixed	Atlas <i>et al</i> ²³	Low	OR 0.6 (0.3 to 1.2); NS	Low
Physical work load*	6 months	Surgical	den Boer <i>et al</i> ²⁶	Low	OR 1.19 (1.07 to 1.31)	Moderate
Job satisfaction	6 months	Surgical	den Boer <i>et al</i> ²⁶	Low	No CI presented; NS	Low
Duration sick leave	6 months	Surgical	den Boer <i>et al</i> ²⁶	Low	No CI presented; NS	Low

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Factors Affect Work Participation In Patients With Sciatica

- **Favorable** risk factors for RTW
- Younger age
- Better general health
- Less LBP or sciatica
- Better physical function
- Negative SLR
- Physician expecting surgery to be helpful
- Better pain coping skills
- Lesser depression or mental stress
- Less fear avoidance
- Low physical workload

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DWC Resources

Call CompConnection:
800-252-7031, Option 3

Email: CompConnection@tdi.texas.gov

Website: www.tdi.texas.gov/wc/index.html

Other Resources

- <https://www.tdi.texas.gov/wc/hcprovider/index.html>
- Trang Nguyen MD, PhD
- trang.nguyen@medicusrx.com
- Phone: 713-292-5099 x 103

Thank you for your time!

