

Optum

Minor injury management

Taking care of what they need

September 2023



Disclosure

No planner, presenter or content expert has a conflicting interest affecting the delivery of this continuing education activity. Optum does not receive any commercial advantage nor financial remittance through the provided continuing education activities.

Medical disclaimer

Medicine is an ever-changing science. As new research and clinical experience broaden our knowledge, new treatment options and approaches are developed. The authors have checked with sources believed to be reliable in their efforts to provide information that is complete and generally in accord with the standards accepted at time of publication.

However, in view of the possibility of human error or changes in medical sciences, neither Optum nor any other party involved in the preparation or publication of this work warrants the information contained herein is in every respect accurate or complete and are not responsible for errors or omissions or for the results obtained from the use of such information. Readers are encouraged to confirm the information contained herein with other sources.

This educational activity may contain discussion of published and/or investigational uses of agents that are not approved by the Food and Drug Administration (FDA). We do not promote the use of any agent outside of approved labeling. Statements made in this presentation have not been evaluated by the FDA.

Disclaimer

The display or graphic representation of any product or description of any product or service within this presentation shall not be construed as an endorsement of that product by the presenter or any accrediting body. Rather, from time to time, it may facilitate the learning process to include/use such products or services as a teaching example.

Accreditation of this continuing education activity refers to recognition of the educational activity only and does not imply endorsement or approval of those products and/or services by any accrediting body.

CE credits for this course are administered by the CEU Institute. If you have any issues or questions regarding your credits, please contact rosters@ceuinstitute.net.

Presenter



Dr. Kathleen Fink
Associate Medical Director

Initial assessment and care

911 True emergency care

2010 American Heart Association

Formerly known as “ABC”; now known as “CAB”

C Circulation / Compressions

A Airway

B Bleeding



Definition of recordable injuries

OSHA

- Any work-related injury or illness requiring medical treatment beyond first aid

Other considerations

- Injuries that don't require hospitalization
- Injuries that do not cause prolonged severe pain or permanent damage

OSHA – Definition of minor injuries requiring first-aid

First Aid Includes:

- Using a non-prescription medication at nonprescription strength (for medications available in both prescription and non-prescription form, a recommendation by a physician or other licensed health care professional to use a non-prescription medication at prescription strength is considered medical treatment for recordkeeping purposes);
- Administering tetanus immunizations (other immunizations, such as Hepatitis B vaccine or rabies vaccine, are considered medical treatment); Cleaning, flushing or soaking wounds on the surface of the skin
- Using wound coverings such as bandages, Band-Aids™, gauze pads, etc.; or using butterfly bandages or Steri-Strips™ (other wound closing devices such as sutures, staples, etc., are considered medical treatment);
- Using hot or cold therapy;
- Using any non-rigid means of support, such as elastic bandages, wraps, non-rigid back belts, etc. (devices with rigid stays or other systems designed to immobilize parts of the body are considered medical treatment for recordkeeping purposes);
- Using temporary immobilization devices while transporting an accident victim (e.g., splints, slings, neck collars, back boards, etc.). Drilling of a fingernail or toenail to relieve pressure, or draining fluid from a blister;
- Using eye patches;
- Removing foreign bodies from the eye using only irrigation or a cotton swab;
- Removing splinters or foreign material from areas other than the eye by irrigation, tweezers, cotton swabs or other simple means;
- Using finger guards;
- Using massages (physical therapy or chiropractic treatment are considered medical treatment for recordkeeping purposes); or
- Drinking fluids for relief of heat stress.

PRICE Is Right

- P Protect**
Prevent the injured area from any additional injury
For example, splinting or sling may be used initially
- R Rest**
Take a break from the activity that caused the injury.
For example, if the injury is to the leg, crutches may be indicated to avoid bearing weight.
- I Ice**
Cold packs 10-15 minutes at a time, several times a day.
Do not apply ice directly to the skin
- C Compression**
Prevent additional swelling and blood loss, with elastic bandage
- E Elevation**
Reduce swelling, elevate the injury higher than your heart while resting



Common minor injuries

Examples

- Sprains/Strains from manual handling, slips, trips or falls
- Minor brain injuries at work caused by a fall from height
- Minor head/scalp injuries caused by being struck by a falling object
- Minor whiplash injuries caused by a road traffic accident involving a work vehicle
- Small superficial Burns
- Small lacerations
- Some dislocations or even fractures

What is a soft tissue injury?

- Sprains/Strains, contusions (bruises), tendonitis, bursitis
- Symptoms may include Pain, swelling, bruising, limited range, weakness, spasms, instability
- Classification
 - Acute
 - Chronic, recurring
 - Chronic, overuse



Treatment

Stage	Acute or inflammatory	Subacute	Chronic
Goal	<ul style="list-style-type: none">• Remove from injury• Prevent further harm	<ul style="list-style-type: none">• Promote healing• Restore mobility and function	<ul style="list-style-type: none">• Educate• Increase mobility, endurance, strength and function

Diagnosis

- Mechanism of Injury
- Pain, swelling, bruising
- Point tenderness
- Pain on range of motion
- Tests
 - X-rays
 - Ultrasound
 - MRI



Sprains and strains

Sprains and strains are the most common workplace injury

25,000 people sprain an ankle every day.
(55% do not seek medical attention)



Back strain accounts for approximately 40% of days away from work



Approximately 630,000 sprains and strains are reported annually in the U.S.
(Half of these are in the workplace)



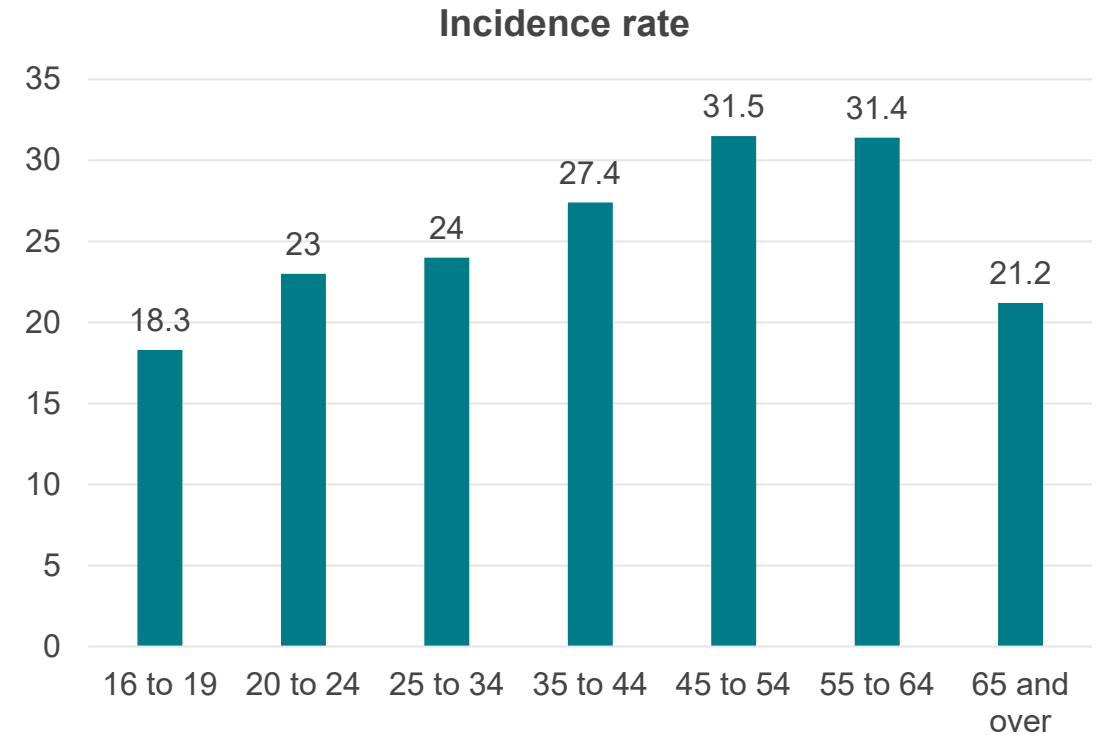
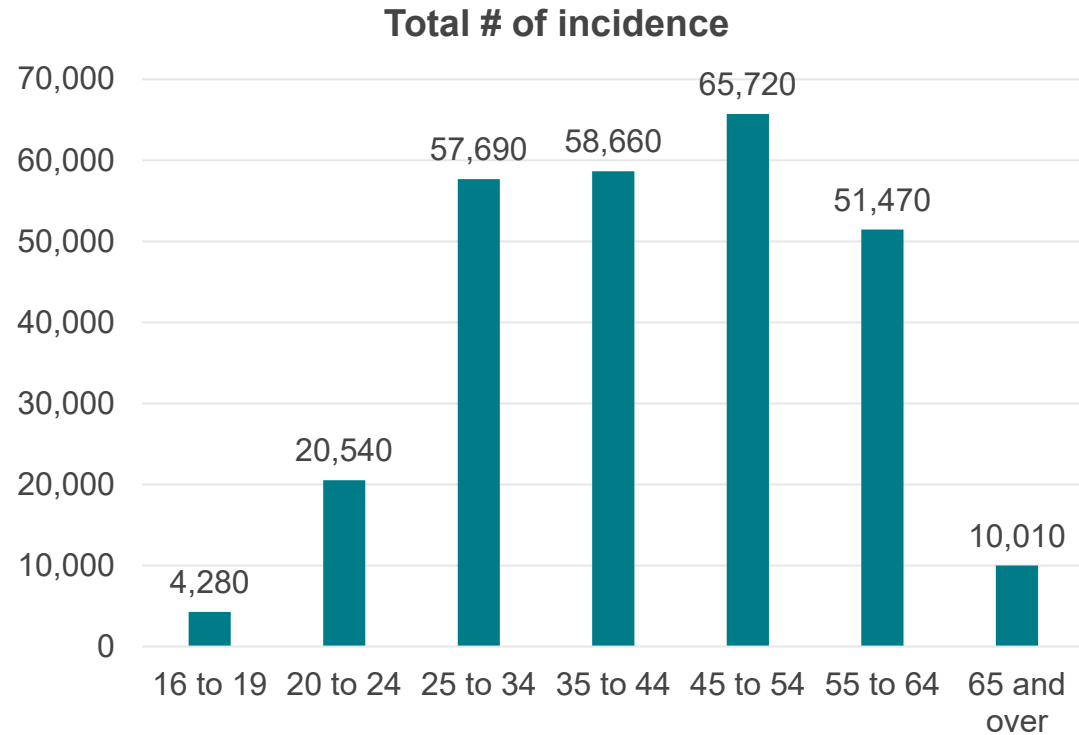
Resources:
Zippia.com
Bureau of Labor statistics
GSKhealthpartner.com

Most common occupations for sprains and strains (U.S., private sector, 2018)

Occupation	Total number of days away from work	Median days away from work	% of total injuries involving musculoskeletal disorders
Laborers and freight, stock, and material movers	25,110	13	38%
Nursing assistants	15,360	7	52%
Heavy and tractor-trailer truck drivers	14,810	21	31%
Stock clerks and order fillers	10,150	15	40%
Registered nurses	8,390	8	42%
Light truck or delivery services drivers	8,380	16	38%
Retail salespersons	7,900	8	30%
First-line supervisors of retail sales workers	6,020	12	36%
Maintenance and repair workers- general	6,010	14	28%
Maids and housekeeping cleaners	5,740	12	35%

<https://www.bls.gov/iif/factsheets/msds.htm>

Incidence by age group (U.S., private sector, 2018)



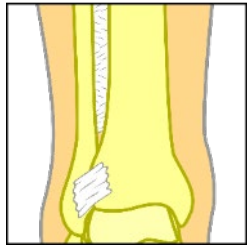
<https://www.bls.gov/iif/factsheets/msds.htm>

Definitions and injury grades

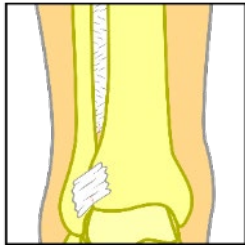
Sprain: Bone to bone - Ligament

Grade

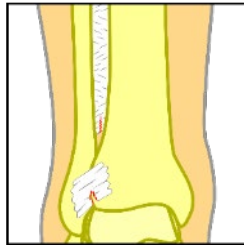
Normal



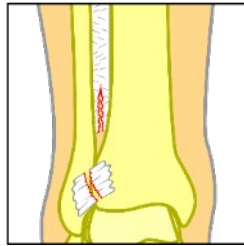
1st
overstretched,
fibers



2nd
partial tear of
structure



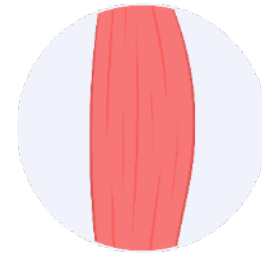
3rd
complete
rupture



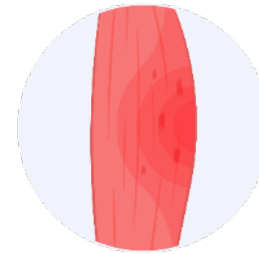
Sprain: Muscle to bone - Tendon

Grade

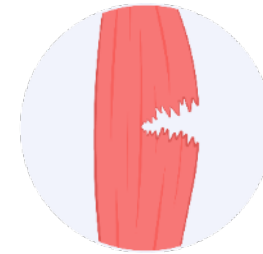
Normal



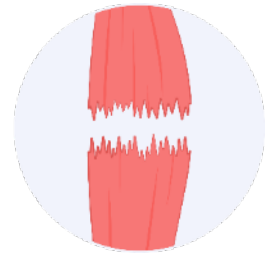
1st
overstretched,
fibers



2nd
partial tear of
structure



3rd
complete
rupture



Sprains & Strains

Treatments

- Medications
- Bracing: Evidence to support more stringent initial immobilization in ligament injuries
- Therapy or Exercise to strengthen
- Medications if needed to progress in treatment
- Joint mobilizations – Evidence to support in some injuries (i.e., back, ankle)
- Other considerations – work



Ankle sprains

- Ankle sprains are the most common injury in the work place
- Inversion – most common
 - Lateral compartment – 3 ligaments (ATFL, CFL, PTFL)
 - Weakest and therefore most common injury ATFL
- Eversion injuries less common
 - Deltoid ligament strong
- High ankle sprains less common
 - Tib/fib syndesmotic injuries
 - Mechanism higher force external rotation or dorsiflexion



Ankle sprains

Exam

- Range, strength, neuro
- Provocative maneuvers – Talar tilt, Drawer sign, etc

Diagnostic tests

- X-rays - Ottawa ankle rules
- MRI only if necessary

Treatment

- Medications
- Rest/Support
- Bracing
- Therapy focus on preventing recurrence

Back strain

- Lumbar strain is most likely area affected
- \$200 billion spent annually on the management of back pain
- Likely both strain and sprain
 - Complex connection of vertebra
 - Sacroiliac Joint sprains
 - Quadratus lumborum strains
- Bracing not usually effective unless there is instability



Back strain

Exam

- Range, strength, neuro, provocative maneuvers
- Must rule out other etiologies “Red Flags”

Diagnostic tests

- X-rays including Flex/Ext
- CT for acute trauma but MRI gold standard

Treatment

- Medications
- Therapy
- Injections



Repetitive Strain UE

- Repetitive Stress Injuries (RSI) or Repetitive Motion Disorders (RMD)
- Risks: Uninterrupted repetitions, awkward motions, excessive force, overexertion, static and/or incorrect postures, vibration, extreme temperatures or muscle fatigue.
- RMDs occur most commonly in the hands, wrists, elbows
- Occupational Risks: assembly line work, meatpacking, sewing, musicians, and computer work

Bureau labor statistics reported that RSI resulted in the greatest average number of days away from work (average > 20).

Repetitive strain injuries

Exam

- Range, strength, neuro, provocative maneuvers

Diagnostic tests

- Objective tests sometimes unable to provide answers

Treatment

- Medications
- Rest/Support
- Ergonomics
- Therapy

Non pharmacologic management summary

Medical oversight

- On site
- Acute care networks
- Primary care provider



Occupational therapy

- Hand injuries
- Splinting
 - Functional passive and dynamic splints
- Post concussion protocols cognitive testing
- ADLs
- Ergonomics
- DME



Physical therapy

- Weight bearing status training
 - Crutches, rollators etc.
- Soft tissue release
- Passive/Active Stretching
- Strength training
- Return to activity guidelines



Medication treatment options

Appropriate medication access

- Programs that allow initial filling of medications after injuries
- Continued access with oversight on *related* medications
- Expedite care and facilitate treatment

Mainstay of treatment - NSAIDs

- Guidelines consider NSAID first line
 - Generally, a cost-effective option
 - Available forms: parenteral, oral and topical

Six Major Classes

1. Salicylates – aspirin
2. Propionic Acid derivatives – ibuprofen
3. Acetic Acid derivatives – diclofenac
4. Enolic Acid derivatives – meloxicam
5. Anthranilic Acid derivatives – mefenamic acid
6. Selective COX-2 inhibitors – celecoxib

NSAIDs

- Individual responses to NSAIDs can vary
- Mechanism
 - Cyclooxygenase inhibitor
 - Nonselective versus selective COX-2
- Even though first line, it is not without risks
 - Major risks: cardiovascular events, renal insufficiency, prolonged bleeding times, and gastrointestinal issues including bleeding, ulcers, and pain.
- For GI side effects - Can consider H2 blockers and/or PPI if needed
- Contraindications
 - Allergy or aspirin hypersensitivity
 - Post Bypass – CABG surgery
 - Third trimester pregnancy

Consider lowest dose, shortest duration, and OTC formulations if appropriate

Are NSAIDs helpful?

An NIH study showed:

Compared with paracetamol (Acetaminophen)

- NSAIDs make no difference to pain at one to two hours and at two to three days and may make no difference at day seven or beyond.
- NSAIDs may result in a small increase in gastrointestinal adverse events and may make no difference in neurological adverse events compared with paracetamol.

Compared with opioids

- NSAIDs probably make no difference to pain at one hour and may make no difference at days four or seven.
- NSAIDs probably result in fewer gastrointestinal and neurological adverse effects compared with opioids.

[Oral non-steroidal anti-inflammatory drugs versus other oral analgesic agents for acute soft tissue injury - PubMed \(nih.gov\)](#)

Meta-analysis Cochrane Database 2020

NSAID Alternatives

- Acetaminophen
 - Paracetamol
 - Limit 4 grams per day
- Steroids
 - Effective but limit use due to side effects
 - Examples – prednisone, methylprednisolone
 - Taper or Pulse
 - Prolonged use with adrenal insufficiency



NSAID Alternatives

- Antispasmodics
 - Common examples – cyclobenzaprine, methocarbamol
 - Side effects drowsiness
 - Caution with other medications
- Adjuncts
 - Gabapentinoids – gabapentin, pregabalin
 - Generally not used for musculoskeletal pain



NSAID Alternatives

- Opioids
 - Short term, limited, as needed use
 - No indication for LAO in sprain/strain

OPIOID USE...	LEADS TO INCREASES IN...
In the first 15-days of injury	<ul style="list-style-type: none">• Disability duration• Medical costs• Risk of surgery (3 times)• Late opioid use (6 times)
When two or more prescriptions for opioids are present	<ul style="list-style-type: none">• Costs• Lost time from work• Duration of paid temporary disability• Indemnity• Attorney involvement• Open claim
With over 90 morphine equivalents per day	<ul style="list-style-type: none">• Accidental overdose• Morbidity and mortality (8.9 fold)

Take Aways

Prevention is the key

- Participatory Approach
- Worker training
- Safety Climate and Culture
- Ergonomics
- Fall Prevention
- Fatigue Factor
- Targeted interventions for high risk groups

What to Do?

- PRICE or RICE
- Focus on restoring function
- Medications – As needed to allow progress
- Return to work as quickly and safely as possible
- Consider Job fit and/or Fit for duty
- Ergonomics
- Future treatment



Thank you!

You will receive an email from the CEU Institute on our behalf within 48 hours after the webinar. This email will contain a link that you will use to submit for your CE credits. (Make sure you check your junk mail!)

You must complete this task within 72 hours.

CE credits for this course are administered by the CEU Institute. If you have any issues or questions regarding your credits, please contact rosters@ceuinstitute.net.

Optum

About Optum Workers' Comp and Auto No-fault Solutions

Optum Workers' Comp and Auto No-Fault Solutions collaborates with clients to lower costs while improving health outcomes for the injured persons we serve. Our comprehensive pharmacy, ancillary, medical services, and settlement solutions, combine data, analytics, and extensive clinical expertise with innovative technology to ensure injured persons receive safe, appropriate and cost-effective care throughout the lifecycle of a claim. For more information, email us at expectmore@optum.com.

© 2023 Optum, Inc. All rights reserved. All other brand or product names are trademarks or registered marks of their respective owners. Optum continuously improves our products and services and reserves the right to change specifications without prior notice.

CCEU-23-2159