Chiropractic medicine

A workers’ compensation and auto no-fault continuing education course
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1. Remain logged on for the entire webinar.
To receive continuing education credit

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2. Answer **all three** poll questions.

SAMPLE

**QuickPoll**

Compounds make up a small number of scripts but have impacted drug spend in workers' comp in that these are high cost meds

Please select one:

- True
- False
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2. Answer all three poll questions.

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• Have audio problems
• Log out
• Any other technical issue

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Undergraduate training

• The Council of Chiropractic Education requires that students have a minimum of 90 hours of undergraduate courses with science as the primary focus of study.

• The typical applicant at a chiropractic college has already acquired nearly four years of pre-medical undergraduate college education.

• This education includes courses in:
  – Biology
  – Inorganic and organic chemistry physics
  – Psychology
  – Related lab work
Curriculum

Once accepted into an accredited chiropractic college, the requirements become even more demanding – four to five academic years of professional study are the standard. Because of the hands-on nature of chiropractic, and the intricate adjusting techniques, a significant portion of time is spent in clinical training.

Curriculum requirements for the Doctor of Chiropractic Degree (DC) in comparison to the Doctor of Medicine Degree (MD) and the Doctor of Physical Therapy Degree (DPT)

<table>
<thead>
<tr>
<th>Curriculum</th>
<th>Average program length</th>
<th>Average classroom and clinical study hours prior to graduation*</th>
<th>Advanced certification available</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chiropractic curriculum</td>
<td>4 years</td>
<td>4,820</td>
<td>Yes</td>
</tr>
<tr>
<td>Medical curriculum</td>
<td>4 years</td>
<td>4,670</td>
<td>Yes</td>
</tr>
<tr>
<td>Physical therapy curriculum</td>
<td>3 years</td>
<td>3,398</td>
<td>Yes</td>
</tr>
</tbody>
</table>

*Does not include hours attributed to post-graduation residency programs.

Source: ?
# Chiropractic education versus medical education

<table>
<thead>
<tr>
<th>Subject</th>
<th>Chiropractic education class hours</th>
<th>Medical education class hours</th>
</tr>
</thead>
<tbody>
<tr>
<td>Anatomy</td>
<td>520</td>
<td>508</td>
</tr>
<tr>
<td>Physiology</td>
<td>420</td>
<td>326</td>
</tr>
<tr>
<td>Pathology</td>
<td>271</td>
<td>335</td>
</tr>
<tr>
<td>Chemistry</td>
<td>300</td>
<td>325</td>
</tr>
<tr>
<td>Bacteriology</td>
<td>114</td>
<td>130</td>
</tr>
<tr>
<td>Diagnosis</td>
<td>370</td>
<td>374</td>
</tr>
<tr>
<td>Neurology</td>
<td>320</td>
<td>112</td>
</tr>
<tr>
<td>X-ray</td>
<td>217</td>
<td>148</td>
</tr>
<tr>
<td>Psychiatry</td>
<td>65</td>
<td>144</td>
</tr>
<tr>
<td>Obstetrics &amp; Gynecology</td>
<td>65</td>
<td>198</td>
</tr>
<tr>
<td>Orthopedics</td>
<td>225</td>
<td>156</td>
</tr>
<tr>
<td><strong>Total hours:</strong></td>
<td><strong>2,887</strong></td>
<td><strong>2,756</strong></td>
</tr>
</tbody>
</table>

Other required subjects for doctors of medicine/doctors of chiropractic

Adjusting, manipulation, kinesiology and other similar basis subjects related to their specialty

Pharmacology, immunology, general surgery and other similar basic subjects related to their specialty

**Grand total class hours:**

4,485  
4,248

Source: YourChiropracticWellness.com
Chiropractic philosophy and scope of practice
Chiropractic care

- Is a health care profession that focuses on disorders of the musculoskeletal system and the nervous system, and the effects of these disorders on general health
- Is used most often to treat musculoskeletal complaints, including but not limited to back pain, neck pain, pain in the joints of the arms or legs, and headaches
- Uses a medication-free, hands-on approach to health care that includes examination, diagnosis and treatment
- Is practiced by professionals who have broad diagnostic skills and are trained to
  - Recommend therapeutic and rehabilitative care and exercises for numerous conditions
  - Provide nutritional, dietary and lifestyle counseling
Chiropractic philosophy is a primary belief in natural and conservative methods of health care

• A deep respect for the human body’s ability to heal itself without the use of surgery or medication

• Careful attention to the biomechanics, structure and function of the spine, its effects on the musculoskeletal and neurological systems, and the role played by the proper function of these systems in the preservation and restoration of health

• The treatment and prevention of disease, as well as the promotion of public health, and a wellness approach to patient health care
Scope of practice

• Frequently treat individuals with neuromusculoskeletal complaints, such as headaches, joint pain, neck pain, low back pain and sciatica

• Also treat those with osteoarthritis, spinal disk conditions, carpal tunnel syndrome, tendonitis, sprains and strains

• Trained to treat a variety of non-neuromusculoskeletal conditions such as:
  – Allergies
  – Asthma
  – Digestive disorders
  – Otitis meda (non-suppurative)
# Common musculoskeletal injuries

<table>
<thead>
<tr>
<th>Injury</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contusion</td>
<td>A kind of closed wound, meaning that the skin is not broken. Contusions are caused by blunt force trauma to the skin that results in tissue damage.</td>
</tr>
<tr>
<td>Strain</td>
<td>An extreme stretching or tearing of muscle and/or tendon.</td>
</tr>
<tr>
<td>Sprain</td>
<td>Partial or complete tearing of ligaments and tissues at the joint.</td>
</tr>
<tr>
<td>Subluxation</td>
<td>A partial displacement or separation of a joint.</td>
</tr>
<tr>
<td>Dislocation</td>
<td>Displacement or separation of a bone from its normal position at the joint.</td>
</tr>
<tr>
<td>Fracture</td>
<td>A break or disruption in bone.</td>
</tr>
</tbody>
</table>
What is subluxation?

- A complex of functional and/or structural and/or pathological articular changes that compromise neural integrity and may influence organ system function and general health.

- Is evaluated, diagnosed and managed through the use of chiropractic procedures based on the best available rational and empirical evidence.
Is chiropractic treatment ongoing?

• The hands-on nature of the treatment is essentially what requires patients to visit the chiropractor a number of times.

• A chiropractor may provide acute, chronic and/or preventive care, thus making a certain number of visits sometimes necessary.
The musculoskeletal system
The skeletal system

- Protects our vital organs, such as the brain, heart and lungs
- Gives us the shape that we have
- Allows us to move; our muscles are attached to our bones, when our muscles move, they move the bones and we move
Soft tissues

- **Muscle**: cardiac, smooth and skeletal
- **Ligament**: connects bone to bone
- **Tendon**: connects muscle to bone
### Musculoskeletal facts

<table>
<thead>
<tr>
<th>PARALYSIS</th>
<th>2+ bones come together to form joints</th>
</tr>
</thead>
<tbody>
<tr>
<td>the inability to control muscle</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>The skeleton is composed of</th>
<th>600+ muscles in the body</th>
</tr>
</thead>
<tbody>
<tr>
<td>200+ bones</td>
<td></td>
</tr>
</tbody>
</table>

| Muscles are the only tissues which contract and relax and cause all body motion | Bones have a rich supply of blood and nerves (they hurt and bleed when damaged) |
The spinal column and nervous system
Cerebra-spinal nervous system

- Brain
- Spinal Cord
- Median Nerve
- Thoracic Nerves
- Lumbar Nerves
- Ulnar Nerve
- Radial Nerve
- Pudental Nerve
- Sacral Nerves
- Sciatic Nerve
- Tibial Nerve
- Saphenous Nerve
Autonomic nervous system

C1-C4: Intracranial blood vessels, eyes, lacrimal gland, parotid gland, scalp, base of skull, neck muscles, diaphragm

C5-C8: Neck muscles, shoulders, elbows, arms, wrists, hands, fingers, esophagus, heart, lungs, chest

T1-T4: Arms, esophagus, heart, lungs, chest, larynx, trachea

T5-T10: Gallbladder, liver, diaphragm, stomach, pancreas, spleen, kidneys, small intestine, appendix, adrenals

T11: Small intestines, colon, uterus

T12: Uterus, colon, buttocks

L1-L5: Large intestines, buttocks, groin, reproductive organs, colon, thighs, knees, legs, feet

Sacrum: Buttocks, reproductive organs, bladder, prostate gland, legs, ankles, feet, toes
Incidence of back pain

• Low back pain is the most common form of physical disability. An estimated 80 percent of Americans will suffer from back or neck pain at some point in their lives.¹

• The National Center for Health Statistics reports that back symptoms accounted for 12,767,000 visits to the doctor in 2008.²

• Back pain is the second leading cause of work absenteeism and the second most frequent reason people go to see their primary treating physician.³

• Most common work-related disability with $50 billion spent annually for direct and indirect related care.

Source: ¹ American Academy of Physical Medicine and Rehabilitation (2011)
² National Ambulatory Medical Care Survey Summary (2006)
³ American Academy of Physical Medicine and Rehabilitation (2011)
Injuries and illnesses involving days away from work

- Sprains and strains: 42.9%
- Bruises and contusions: 9.0%
- Cuts and lacerations: 7.3%
- Fractures: 7.2%
- Heat burns: 1.7%
- Carpal tunnel syndrome: 1.5%
- Tendonitis: 0.6%
- Chemical burns: 0.6%
- Amputations: 0.6%
- Multiple traumatic injuries: 3.6%
- Other: 25.0%

Prevalence of selected types of chronic pain

- Low back pain: 25.3 million males, 31.7 million females
- Neck pain: 11.7 million males, 17.4 million females
- Migraine: 8.0 million males, 19.4 million females
- Facial pain: 2.6 million males, 6.5 million females

Common diagnostic procedures
X-rays

Although x-rays do not show meniscal tears, they may show other causes of knee pain, such as osteoarthritis and damage to the bones and infiltration of the joint.
MRI

Spine evaluation

- Disk (HNP)
- Facets (arthrosis)
- Stenosis (central and lateral)
Computed tomography of the bone

• Computed tomography (CT) is the test of choice to better delineate fractures in claimants who have trauma.

• If the history and physical examination point to damage of the cartilage, the menisci and the cruciate and collateral ligaments and arthroscopy is contemplated, then magnetic resonance imaging (MRI) is useful for evaluating these structures.
Common musculoskeletal injuries and pathologies
Degenerative disc disease
## Arthritic knee

<table>
<thead>
<tr>
<th><strong>OSTEOARTHRITIS (OA)</strong></th>
<th><strong>46%</strong> of people will develop OA during their lifetime</th>
</tr>
</thead>
<tbody>
<tr>
<td>Is the most common type of arthritis</td>
<td></td>
</tr>
</tbody>
</table>

- OA can cause the knees to become painful and can occur after an injury or can be caused by excess body weight, a genetic predisposition or just normal wear and tear.

- Rheumatoid arthritis is an autoimmune disorder that causes inflammation of the joints throughout the body.

- Over time, the cartilage is damaged and worn away, eventually the bones rub directly against one another, resulting in chronic pain.
Low impact injuries

- Neck sprain/strain
- Back sprain/strain
- Knee and leg injuries
- Head injuries
Common reasons for back pain

- Recurring injury
- Poor ergonomics
- Overweight
- Degenerative joint disease
- Degenerative disc disease
- Herniated discs
- Fracture
- Nerve Compression
- Cancer
- Systemic disease (AS, infection, osteoporosis)
- Failed surgeries
Common treatment for musculoskeletal injuries and pathologies
Conservative treatment

- Aerobic conditioning
- Exercise therapy
- Chiropractic Tx
- Osteopathic Tx
- Acupuncture

- Deep tissue therapy (massage)
- Stretching
- Spinal decompression
- Behavior/lifestyle modification
Chiropractic adjustment

• A procedure in which trained specialists (chiropractors) use their hands or a small instrument to apply a controlled, sudden force to a spinal joint.

• The goal of chiropractic adjustment, also known as manipulation, is to correct structural alignment and restore your body’s normal function.
Rehabilitation and therapy

• Activity modification
• Stretching and exercise
• Prescription medication
• Over-the-counter medication
• Ultrasound
• Electrical therapy (high volt, low volt, IF, TENS, H-Wave, etc.)

• Laser
• Mobilization devices
• Heat
• Compression
• Cold
Medical treatment

• Pain medication
• Spinal decompression
• Epidural injections
• Nerve blocks
• Nucleoplasty

• Discectomy
• Traditional open back surgery (laminotomy or laminectomy)
• MISS (Minimally Invasive [laser] Spine Surgery)
Pharmacologic therapies

• NSAIDs
  • Aspirin (Bayer), acetaminophen (Tylenol), ibuprofen (Motrin, Advil), naproxen (Aleve), piroxicam (Feldene), nabumetone (Relafin)
• COX-2 inhibitors (Celebrex)
• Topical gel (Voltaren)
• Opioid analgesic pain relievers (OxyContin, Percocet, Codeine)
• Cortisone injections
Key takeaways

- Due to state and federal requirements, Chiropractors have a similar educational to medical doctors and physical therapists.

- Typical injuries that a Chiropractor may treat or co-treat are:
  - Sprains stains of the spine: Auto related whiplash (neck strain), low back strain (with/without neurological components).
  - Shoulder injuries: (rotator cuff strain) Adhesive capsulitis/Frozen shoulder.
  - Knee injuries: strains/sprains
  - Overuse syndromes: Pronator Teres Syndrome, carpal tunnel
  - Headaches
  - Various other injuries or conditions that have a neurologic component

- A subluxation (less than a dislocation) typically results in joint dysfunction. This condition in the spine may result in a variety of associated neurologic dysfunctions, affecting both the nerves associated with musculoskeletal system and the autonomic nervous system.

- It is common for Doctors of Chiropractic to co-treat patients along with other practitioners such as orthopedists, neurologists and physical therapists.

- For any given treatment, the goal should always to be restore health and function, to the greatest extent possible, as quickly and as efficiently as possible.
Thank you!

Questions?

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