A Pain in the Neck

Jennifer Collis PT, DPT
Physical Therapist
SUNY Upstate Medical University
Outline

- Prevalence/Incidence
- Risk Factors
- Anatomy and Classification
- Causes of neck pain
  - Prevention??
- Physical Therapy
  - When to seek medical attention
- Exercises
Prevalence and Incidence of Neck Pain

- Neck pain is the 4th leading cause of disability in the U.S.

- Up to $\frac{2}{3}$ of people will be affected at some point in their lifetime

- Neck pain can be episodic and recurrent throughout the lifespan
  - Greater than 60% experience another episode of neck pain within 1 year of their initial episode

- Annual cost of neck and low back pain is $87.6$ billion in the U.S., behind only diabetes and heart disease
Risk Factors

- Females more likely than males
- Middle age
- Genetics
- Biopsychosocial factors
- Sleep problems
- Smokers
- Sedentary lifestyle
- Obesity
- Trauma history
- Occupations
  - Office workers, manual laborers
  - Low job satisfaction and perceived poor workplace environment
Deep neck muscles
anterior view
Classification of Neck Pain

- **Duration**
  - Acute <6 weeks
  - Subacute < 3 months
  - Chronic > 3 months

- **Mechanism**
  - Mechanical
    - pain originating in the spine or its supporting structures
  - Neuropathic
    - pain resulting primarily from injury or disease involving the peripheral nervous system, which generally involves mechanical or chemical irritation of nerve roots
  - Mixed Mechanical and Neuropathic
  - Secondary to another cause
Pathoanatomy of Neck Pain

- Specific tissue that causes pain often unknown
- Neck pain is classified as non-specific when the pathophysiology is relatively unknown or unclear
  - no underlying pathology or systemic disease
- Numerous anatomical structures in the cervical spine which could cause pain
  - Most probably have multiple pain generators due to the association between adjacent structures
Causes of Neck Pain

- Physical factors of the person
  - Strength, flexibility, posture, physical activity during leisure time
- Workplace psychosocial factors have been shown to be strong predictors for the development of neck pain in office workers
  - High job strain
    - high job demand and low job support
  - Low levels of satisfaction/comfort with workplace environment
  - Sustained sitting
  - Close keyboard position to the body (less than 15 cm)
  - Low task variation
Physical Therapy Classifications

- Neck Pain with Mobility Deficits
- Neck Pain with Radiating Pain
- Neck Pain with Movement Coordination Impairment
- Neck Pain with Headaches
Evaluating Neck Pain

● **History**
  ○ Symptoms - Location

● **Physical Examination**
  ○ Range of motion
  ○ Strength
  ○ Sensation
  ○ Reflexes
  ○ Special Tests

● **Diagnostic Work-up**
  ○ X-ray
  ○ MRI.....NOT typically recommended unless serious “red flags” present!!!
Prevention

- Exercise effective in preventing neck and low back pain
  - Most importantly, just frequent movement

- Limited evidence to support or refute the effectiveness of ergonomic modification

- Poor posture does not (always) equal pain....
Benefits of Exercise for Neck Pain

● Strongest evidence for conservative therapy...exercise!!
  ○ Active or passive physical exercises designed to strengthen or stabilize the spine that may reduce pain, prevent injuries, and improve posture and body mechanics

● Strong evidence for frequency of exercise/physical activity
  ○ Stretching
    ■ Can decrease pain and improve flexibility
  ○ Strengthening
    ■ New evidence suggests strengthening is superior
  ○ Endurance

● Weaker evidence for massage, acupuncture, and spinal manipulation
Exercises
Disclaimer!!!

- The following exercises, though selected by a medical provider, are intended to demonstrate general ideas, education, and demonstration of exercises for mild neck pain.

- These exercises should not be used to self-treat or self-diagnose any condition.

- Do not use these exercises to avoid going to your own healthcare professional.

- If you so chose, exercises are to be used at your sole risk, and Jen is not liable for any losses, injuries, or damage.
Chin Tuck

- Good for “posture” and activating the deeper stabilizing muscles of the neck
- Pull chin straight back as if you are giving yourself a double chin
- 8-10 repetitions

Upper trapezius stretch

- Gently tilt head to one side with hand, should feel a comfortable stretch in the upper shoulder and into neck
Shoulder Shrug

- Move shoulders straight up towards ears, then focus on pulling shoulder blades down and back
- 10-15 repetitions

https://www.mskcc.org/cancer-care/patient-education/arm-exercise-program
Shoulder blade squeezes

- Squeeze shoulder blades down and back
- 10-15 repetitions
- Good for those who sit for long periods
  - Activates the muscles that are often not worked enough when we sit forward
Pec stretch/Chest Opener

- Stand in open doorway, raise arms up with elbows bent, place palms on door frame
- Step forward with one foot or lean forward until you feel a gentle stretch in the front of your shoulders and chest
- Stand up tall with head up
- Hold 20-30 seconds
- Repeat 3 times
Open Book

Cat Cow
Theraband Rows

- Strength progression of shoulder blade squeeze
- Use resistance band or tube
- Stand tall and pull on ends of band as you squeeze your shoulder blades down and back
- Repeat 10-15 times.
Banded Pull Aparts

- Use resistance band or tube
- Stand with arms out straight in front of you and parallel to ground
- Keep elbows straight, pull band apart to chest and back
- 10-15 times
Banded pull downs

- Attach resistance band or tube inside door
- Hold ends of band, keep elbows straight and pull band down towards hips
- Keep tops of shoulders relaxed
- 10-15 times
Natural Course of Neck Pain

- Most acute cases will resolve in 2 months, but approximately 50% of patients will continue to have some pain or frequent recurrences up to 1 year after.

- No association found between the degree of radiographic degeneration and prognosis.

- Neuropathic pain tends to have worse prognosis than non-neuropathic pain.

- Recovery appears to happen most rapidly within the first 6 to 12 weeks post-injury.
  - Slowed recovery after 12 weeks.
Recent evidence... working from home during pandemic

- Effect of working from home on neck pain among office workers in Sweden
- Data yielded no evidence that neck disability, number of work breaks, or number of hours of computer work changed between pre-COVID-19 pandemic (working in the office) and follow up
  - Actually found evidence of a 0.68 point reduction in neck pain intensity during the lockdown
- Second hypothesis, that poor workstation ergonomics, the number of breaks at work, and long working hours at a computer would be associated with higher neck pain intensity was partially confirmed

When to seek medical attention??

- Wait and see???. Unless:
  - You have symptoms radiating into one or both arms
  - Pain is constant, not changed by movement or certain positions
  - Pain is severe
  - Pain is associated with dizziness, severe headaches, balance issues
  - Sudden fever, unexplained weight loss, difficulty walking, incontinence

- Consult your primary care physician or physical therapist if pain persists or if you have any questions regarding exercise!!
Pain is personal.

Treating pain takes teamwork.

#ChoosePT
MoveForwardPT.com
References

- Cohen SP and Hooten WM. Advances in the Diagnosis and Management of Neck Pain. BMJ; 2017.