

# CALIFORNIA ORTHOPAEDIC ASSOCIATION OCCUPATIONAL INJURIES SUFFERED BY ORTHOPAEDIC SURGEONS: 2017 SURVEY RESULTS

November 4, 2017

## OVERVIEW

Medicine spends a lot of time thinking about treatment for injured workers. Little attention or study has been given to occupational injuries that may affect surgeons in the course of their day-to-day activities. This survey is to assess whether orthopaedic surgeons are suffering occupational injuries, whether they report their injuries, what treatment they seek for the injuries, and what changes could be made to their operating room environment that would help to reduce these injuries.

681 Orthopaedic Surgeons responded to the survey from 27 states.

Participating States					
Arkansas	1	Louisiana	2	Ohio	1
Arizona	1	Nevada	6	Oklahoma	4
California	329	New Hampshire	1	Oregon	27
Colorado	25	New Mexico	23	Pennsylvania	44
Florida	54	New York	1	Tennessee	22
Georgia	5	Maryland	45	Texas	4
Hawaii	6	Massachusetts	2	Virginia	2
Illinois	10	Minnesota	1	Washington	23
Iowa	31	Missouri	1	Wisconsin	21
• One respondent practiced in two states					

## SURVEY RESULTS

681 orthopaedic surgeons responded to the COA Occupational Injury Survey.

### Demographics of Respondents

#### Age of respondents:

30 years of age or under	1.76%
31-40 years of age	9.84%
41-50 years of age	20.41%
51-60 years of age	29.22%
61-70 years of age	26.28%
over age 70 years of age	12.48%

#### Gender:

Male	91.48%
Female	8.37%
Transgender	0.15%

**Race/Ethnicity:**

American Indian/Alaska Native	0 .15%
Asian	7.49%
Black/African American	1.03%
Caucasian/White	85.61%
Hispanic/Latino	2.94%
Native Hawaiian/Pacific Islander	0.29%
Other: Multiracial/Appalachian American Prefer not to state	2.50%

**Orthopaedic Sub-Specialty:**

Foot and Ankle	7.49%
Hand/Elbow	17.91%
Hip	11.01%
Knee	27.61%
Oncology	1.62%
Shoulder	26.43%
Spine	11.01%
Total Joints	23.05%
General	29.96%
Other included surgeons working in Pediatrics, Sports Medicine, multiple orthopaedic subspecialties and trauma	16.45%

**Microscope/Loupe Experience**

With use of a microscope/loupe in their practice	44.35%
No use of a microscope/loupe in their practice	55.65%

**Of those respondents using a microscope/loupe,**

Using them less than 5 times per month	45.76%
6-10 times per month	13.90%
11-15 times per month	10.51%
16-20 times per month	8.81%
21-25 times per month	3.05%
More than 25 times per month	17.97%

**Arthroscopy Experience**

With arthroscopy experience	96.26%
No arthroscopy experience	3.74%

**For those have arthroscopy experience,**

Perform arthroscopic procedures less than 5 per month	35.66%
6-10 arthroscopic procedures per month	23.61%
11-15 arthroscopic procedures per month	13.79%
16-20 arthroscopic procedures per month	11.89%
21-25 arthroscopic procedures per month	5.86%
More than 25 arthroscopic procedures per month	9.19%

**Neck Pathology Diagnosis****Respondents reported the following cervical spine diseases:**

Cervical degenerative disc disease	35.37%
Cervical spine trauma	4.50%
Cervical spine tumors	0.48%

Cervical spine infection	0.64%
Never having these conditions	58.52%
Other diseases included:	8.68%
Acute disc herniation	
Chronic neck pain	
Foraminal stenosis – multiple level	
Cervical disc rupture mild degenerative disc disease	
Cervical radiculopathy-resolved	
Cervical myelopathy	
HNP C-spine	
Neck strain	
Stenosis	
Herniated disk	
Spondylosis	
Chronic pain	
Disc protrusion	
Arthritis	
Myofascial pain traps	
Mild degenerative disc disease	
Cervical facet arthritis	

## Neck Pain

Reported experiencing neck pain:	61.83%
No neck pain	38.17%

### Of those reporting neck pain:

Neck pain started before their medical training	10.05%
No neck pain prior to starting their medical training	89.95%

Reported neck pain within the last 3 months	73.85%
No neck pain within the last 3 months	26.15%

### Of those reporting neck pain felt the pain was:

Related to a work-related Injury	10.36%
Non work-related Injury	10.10%
Acute event	3.89%
Repetitive Injury	16.84%
Degenerative condition	29.53%
Age-related	10.36%
Other	18.91%

- Unsure of cause – assume age
- Likely due to a combination of stress, computer and OR
- Don't know – no injury – intermittent pain
- A combination of the injuries listed
- HNP C5-6
- Occasional soreness after shoulder arthroscopy but not knee – quickly resolves once the case is finished
- Multiple long loupe cases that were very stressful
- Regular work
- Chronic strain of neck muscles during surgery
- Sports injury
- Hyperextended neck while shooting from a kneeling position
- Chronic stiffness due to constantly looking down
- Muscle spasm
- Bike injury
- Acute injury and chronic pain
- Exercise related,, but not due to an actual injury
- Car accident
- Idiopathic
- Cycling

Arthroplasty procedures  
 Computer use at office  
 Cervical strain  
 Post 2 level cervical disc replacement  
 Operating  
 Muscular pain, mild kyphotic c-spine  
 Muscular, stress and positioning  
 Positional myofascial n OR  
 Long surgeries  
 Trapezial strain x 2 (non work related strain, but limited at work as result)

If the respondent felt the neck pain was related to a work injury ;

Reported the injury	3.05%
Did not report the injury	96.95%

Reasons why they did not report the work-related injury:

Did not have Workers' Compensation/Disability Insurance	13.84%
Did not know how to report the injury	2.23%
Did not understand their disability benefits	4.02%
Thought the neck pain would resolve on its own	33.48%
Felt reporting the injury would disrupt their daily workflow	33.04%
Listed other circumstances	34.82%
Life is complex	
More life activity than associated with work	
Never considered reporting injury as work-related	
Self employed	
Symptoms not sufficient to interfere with work	
The last thing I will ever do is become a WC patient	
Although exacerbated by work, not caused by work	
Not worth the hassle	
Resident at the time	
No benefit of reporting	
Was uncertain of cause , now have transfer facet arthritis	

Asked whether they ever missed work as a result of the neck pain,

Yes	16.84%
No	83.16%

Asked whether they sought treatment for the neck pain,

Yes	37.18%
No	62.82%

Of those responding yes to receiving treatment, they tried the following treatment for the Neck Pain:

Chiropractic Care	13.85%
Acupuncture	7.95%
Used Heat or Ice	73.08%
Changed their mattress pad/pillow	70.77%
Used bracing	12.31%
Took non-narcotic pain medications	87.69%
Took narcotic pain medications	11.54%
Took muscle relaxants	20.26%
Had an epidural injection	10.26%
Underwent neck surgery	6.41%

## Cervical Radiculopathy/Myelopathy Radiculopathy

Reported experiencing cervical radiculopathy/myelopathy radiculopathy	24.38%
Reported no cervical radiculopathy/myelopathy radiculopathy	75.63%

### Of those reporting cervical radiculopathy/myelopathy radiculopathy,

Reported cervical radiculopathy/myelopathy radiculopathy before medical training	3.27%
No cervical radiculopathy/myelopathy radiculopathy prior their medical training	96.73%

Reported cervical radiculopathy/myelopathy radiculopathy within the last 3 months	48.70%
No cervical radiculopathy/myelopathy radiculopathy within the last 3 months	51.30%

### Of those reporting cervical radiculopathy/myelopathy radiculopathy was related to,

Related to a work-related injury	10.39%
Non work-related injury	7.14%
Acute event	4.55%
Repetitive injury	16.88%
Degenerative condition	37.66%
Age-related	5.19%
Other	18.18%

- Uncertain
- A combination of injuries listed above
- Sports injury
  - Hyperextended neck while shooting
  - Noticed triceps weakness while skiing
  - Congenital stenosis and HNP from non-work injury
  - Prolonged flexion of neck during surgery
  - Work related but no specific injury
  - Sport trauma
  - CT and aging

### If the respondent felt the cervical radiculopathy/myelopathy radiculopathy was related to a work injury,

Reported the injury	6.86%
Did not report the injury	93.14%

### Reasons why they did not report the work-related injury:

Did not have Workers' Compensation/Disability Insurance	16.67%
Did not know how to report the injury	5.95%
Did not understand their disability benefits	4.76%
Thought the cervical radiculopathy/myelopathy radiculopathy would resolve on its own	29.76%
Felt reporting the injury would disrupt their daily workflow	26.19%
Listed other circumstances <ul style="list-style-type: none"><li>Not work-related</li><li>Uncertain if work-related</li><li>Symptoms not sufficient to interfere with work</li><li>Self-employed</li><li>No benefit of reporting</li><li>Never got bad enough</li><li>Multiple causes</li><li>Reported to disability carrier</li></ul>	39.29%

### Asked whether they ever missed work as a result of the cervical radiculopathy/myelopathy radiculopathy,

Yes	31.82%
No	68.18%

### Asked whether they sought treatment for the cervical radiculopathy/myelopathy radiculopathy,

Yes	53.95%
No	46.05%

**Of those responding yes to receiving treatment, they had the following treatment for the cervical radiculopathy/myelopathy radiculopathy:**

Chiropractic Care	14.47%
Acupuncture	11.18%
Used Heat or Ice	71.71%
Changed their mattress pad/pillow	73.03%
Used bracing	17.76%
Took non-narcotic pain medications	87.50%
Took narcotic pain medications	19.08%
Took muscle relaxants	28.29%
Had an epidural injection	23.03%
Underwent neck surgery	18.42%

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## Anthropometrics

Respondents indicated that they spend the following average number of days per week doing physical activities:

Mild Exercise (less than 15 minutes of walking)	341
Moderate Exercise (more than 15 minutes of walking)	452
Strenuous Exercise (more than 15 minutes of running)	481

**When asked whether they currently smoke, respondents indicated:**

Yes, they smoke	0.83%
Never smoked	99.17%

They have smoked in the past	12.52%
They have never smoked	87.48%

**For those who did smoke, respondents indicated that they smoked:**

less than 2 years	43.21%
3-5 years	22.22%
6-10 years	12.35%
11-15 years	6.71%
16-20 years	7.41%
More than 20 years	8.64%

**Respondents reported the following stress in their job:**

No stress	1.84%
Very little stress	4.34%
Little stress	10.52%
Moderate stress	48.25%
High stress	27.88%
Very high stress	7.18%

**Respondents reported the following stress in other areas of their life:**

\No stress	2.84%
Very little stress	19.37%
Little stress	33.39%
Moderate stress	36.89%
High stress	6.18%
Very high stress	1.34%

**When asked whether an ergonomics specialist has ever assessed their OR, respondents responded as follows:**

Yes	0.83%
No	89.48%
Did not know	9.68%

**Recommendations to Improve the ergonomics in the OR or survey design:  
OR/Surgeon Recommendations:**

1. Exercise often and continuously.
2. Need breaks. Surgeons are pushed to work 6-10 hours straight without any rest for the neck.
3. The weight and load distribution of "space and helmets" used in total joint replacement.
4. Appropriate level (eye level) for arthroscopic monitors.
5. Figure out ways one does not have to lean to the side during total knee replacement surgeries.
6. Lighter weight x-ray aprons.
7. Be very aware of your posture when using loupes for hand procedures.
8. Need improved ergonomics for surgeons who are performing arthroscopic procedures.
9. Less lifting of the patients by the surgeon- more held in the OR
10. Hire qualified interested personnel which today is hard to find.
11. Because I am shorter than the residents I teach, I have to stand on a lift in the OR so they can have the OR table high enough for their necks/backs. Not all of my shorter partners do this.
12. OR rooms need ergonomic assessments.
13. More lifting help and education for OR staff.
14. Need adjustable chairs with foot pedal and back support.
15. Table height adjustments.
16. Sit whenever possible.
17. Better helmets for arthroplasty procedures.
18. No surgeries for aging surgeons.
19. Suspect that PTSD may be more common (or less reported) than examined or discussed.
20. Taller scrub nurse techs
21. Stand when you scope and elevate the table and bend the knee
22. Low back pain and issues are a problem too...if I have a SCR or a case longer than 2 hours my low back is an issue. If I have a moderate to big day with loupes...my c spine is an issue. Back strengthening, foam roller and core are key for me.
23. Micro Scope extenders and elbows to keep neck long and neutral.
24. Frequent position changes during surgeries.
25. Frequent bathroom breaks w yoga stretching.
26. I dropped my seat height and raised the hand operating table to decrease neck flexion. Also, I scheduled on one long case a day.
27. Maintaining a comfortable operating temperature.
28. Ortho hand cases necessitate C-spine flexion for long periods of time & worsen sx. Would need quality prism glasses to look forward & see downward, instead of flexing spine.
29. Booms holding video images angled toward me
30. OR lights need to be higher or lower profile, I constantly bang my head and jar my neck on the OR lights.  
We have 2 OR lights , there ought to be 3 per room.
31. Recommend neck and shoulder strengthening exercises

**Survey Recommendations:**

1. I would maintain that wearing loupes has far less implications than microscope usage in terms of cervical spine stress and believe that the survey should separate these questions.
2. Add swimming to choices of exercise.
3. The survey should also ask about low back issues.
4. Add a choice for "degenerative" and/or "age" to the source of neck pain. Not all neck pain is due to injury.
5. Geez ... you didn't even ask about low back pain. Ouch. How about low back pain every day of my life since having to reduce a hip fracture dislocation in my 3rd month of private practice! Too bad for my back that the ER doctor didn't know how to give proper sedation.
6. I have not experienced neck pain but I have chronic scapular pain at the end of every surgery day.
7. Perhaps misleading to ask questions about Microscope/Loupes procedures as if they were the same. I never use a microscope but frequently use 3.5 power Loupes because of my foot/ankle subspecialty.
8. There are lots of other injuries ortho surgeons are prone to: low back injury, shoulder, wrist--may wish to assess those at some point as well

## Occupational Injury Task Force Members

Ronald Wyatt, M.D.

Ronald Navarro, M.D.

Elizabeth Norheim, M.D.

Jessica Chuang, M.D.

Diane Przepiorski, Executive Director