



Playing for Keeps

INJURY PREVENTION FOR MUSICIANS

Content of **Agenda**

Playing for Keeps



- **Scope of the Problem**
- **Types of Injuries**
- **Causes**
- **Solutions**
- **Tools**

How big is the **Problem?**

What do we know from research?



- **60% of professional orchestra players are injured (miss work) in their lifetime**
80% of orchestral string players are injured (miss work)

- **45% of professional singers are injured (miss work) due to injury**

- **65% of college instrumentalists already feel pain on a regular basis**
50% of college singers have benign lesions, 80% of those are asymptomatic

- **30-50% of musicians will develop hearing problems in their life time**

- **Note: Statistics do not include those that have retired or have exited the field.**

most common forms of injuries

Playing for Keeps



- **Musculoskeletal - tendonitis, carpal tunnel, disc generation, chronic low back pain, blown chops, hernias**
- **Neurological - focal dystonia, thoracic outlet syndrome, nerve entrapment**
- **Vocal - nodes, lesions, polyps, vocal hemorrhage, vocals paralysis**
- **Hearing - permanent hearing loss, tinnitus**

How do injuries **manifest** themselves?

what are the warning signs?

- Injuries manifest chronically over time, rarely all of the sudden. Injuries are diagnosed increasingly with age, manifest silently over time.
- The warning sign for instrumentalists: Pain
- Pain = your body's signal that you are causing damage
- Singers: the warning signs that you are injuring yourself: hoarseness, vocal fatigue, breathiness, dry throat, throat clearing
- Hearing damage: no warning, just loud sounds

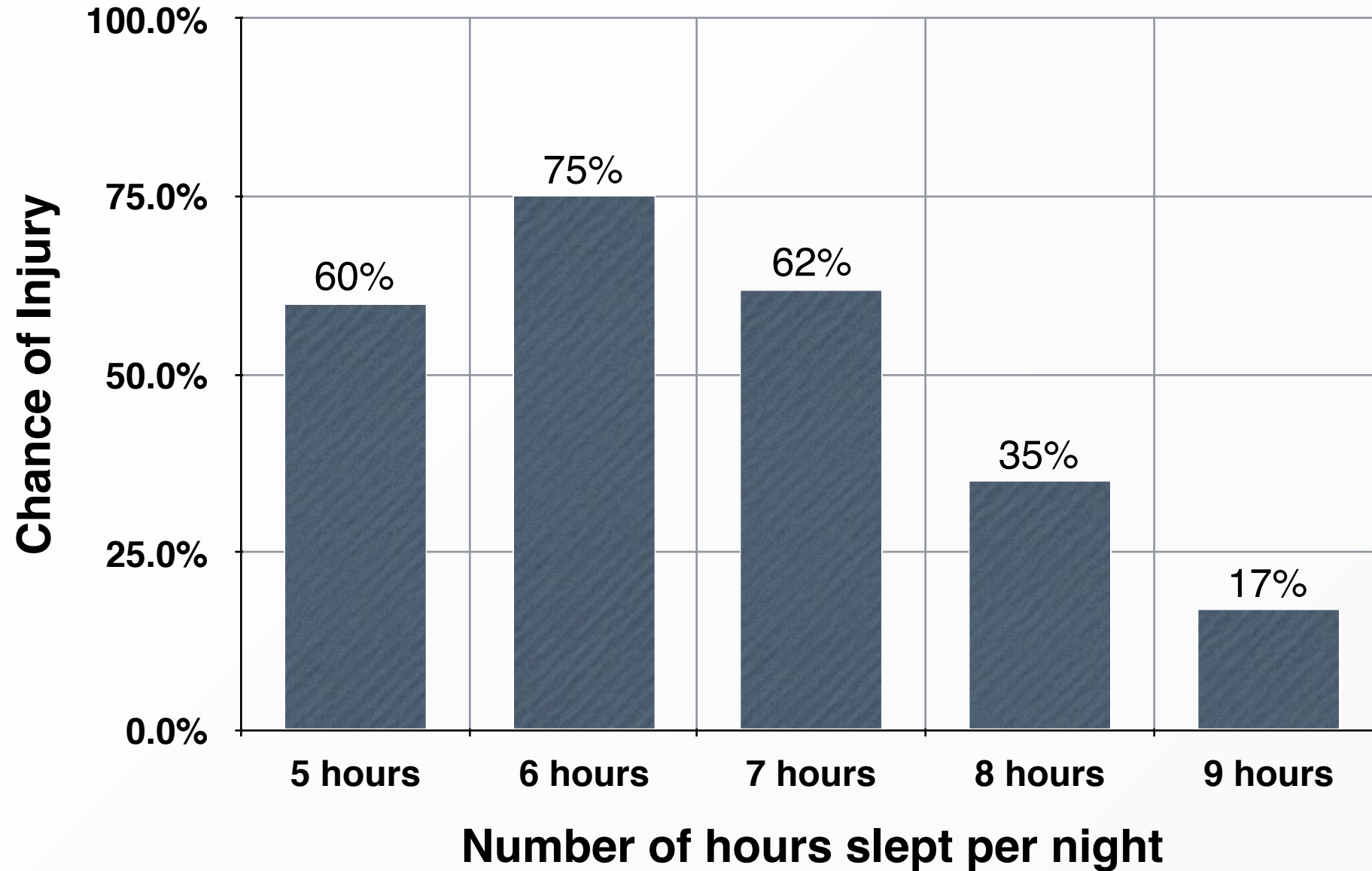
What causes or contributes to injuries?

Research studies tell us that there are 6 factors:



- Genetics
- Asymmetrical positioning
- Faulty Positioning & Posture
Faulty Technique
- Overuse
- Binge Practicing
- Lack of sleep

Chance of injury among high school sports participants per average hours sleep/night (all sports)



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So, how do you stay healthy?

How do you beat
the odds?



ARREST Pain

ARREST Strategies

Strategies for health and for artistic excellence

A for Alternatives to regular (on instrument) practice

- * tap, sing, conduct, listen, read, sit in on other lessons, video tutorials
- * sing with a metronome, sing into a tuner, shadow play with an mp3

R for Regularity

- * Keep regular hours, slow and steady wins the race
- * shorter stints (50 min max), several times a day
- * Get back into shape gradually, not all at once

R for Recognize excellence, flaws, and warning signs of injury

- * record yourself audio and video every single practice session
- * play for others, get feedback
- * keep a practice journal (mark progress, hours, pain)
- * Fix posture & technique now, not later -
- * consider posture remediation: harness, etc.

ARREST Strategies

Strategies for health and for artistic excellence

E for Exercise with and away from instrument

- * warm up (and down if you are a brass player)
- * stretch after playing!
- * Yoga, swimming, or exercise. Alexander Technique

S for Sleep

- * Sleep regular hours
- * Naps and rest are more important when you play/singing more
- * Ditch electronics 1 hour before bed to sleep better

T for take a break

- * limit overall time on instrument - be mindful of ensemble days
- * Break every 1/2 hour, at the latest at 50 min.
- * Make sure you count alternatives to traditional practice as practice
- * don't play through pain or sing through hoarseness

Additional recommendations for singers

SHH!

SHH! Strategies

Strategies for health and for artistic excellence

S for Speaking Voice

- * monitor volume, pitch, glottal attacks,
- * mind speaking environment (background noise)
- * Take vocal naps

H for Hydrate!

H for habits - don't abuse your instrument

- * smoking, drinking
- * yelling
- * excessive throat clearing
- * don't sing when hoarse

Let's talk about noise

.....a little protection
goes a long way...

Hearing exposure single instruments

INSTRUMENT	dB	Peak
Violin/viola (near left ear)	85 - 105	116
Violin/viola	80 - 90	104
Cello	80 - 104	112
Acoustic bass	70 - 94	98
Clarinet	68 - 82	112
Oboe	74 - 102	116
Saxophone	75 - 110	113
Flute	92 - 105	109
Flute (near right ear)	98 - 114	118
Piccolo	96 - 112	120
Piccolo (near right ear)	102 - 118	126
French horn	92 - 104	107
Trombone	90 - 106	109

Hearing exposure instruments continued

INSTRUMENT	dB	Peak
Trumpet	88 - 108	113
Harp	90	111
Timpani and bass drum	74 - 94	106
Percussion (high-hat near	68 - 94	125
Percussion	90 - 105	123-134
Singer	70 - 85	94
Soprano	105 - 110	118
Choir	86	No data
Normal piano practice	60 - 90	105
Loud piano	70 - 105	110
Keyboards (electric)	60 - 110	118
Chamber music (classical)	70 - 92	99
Symphonic music	86 - 102	120 - 137

Safe sound exposure

Noise Level (dBA)	Maximum Exposure Time per 24 Hours
85	8 hours
88	4 hours
91	2 hours
94	1 hour
97	30 minutes
100	15 minutes
103	7.5 minutes
106	3.7 minutes
109	112 seconds
112	56 seconds
115	28 seconds
118	14 seconds
121	7 seconds
124	3 seconds
127	1 second
130–140	less than 1 second
140	NO EXPOSURE

hearing loss & tinnitus prevention

hearing damage is irreversible -
and you won't know it's happening until it is too late.

Wear ear protection, particularly in ensemble, but also solo

*aim for 9-20db reduction, so
that you will wear it more often*

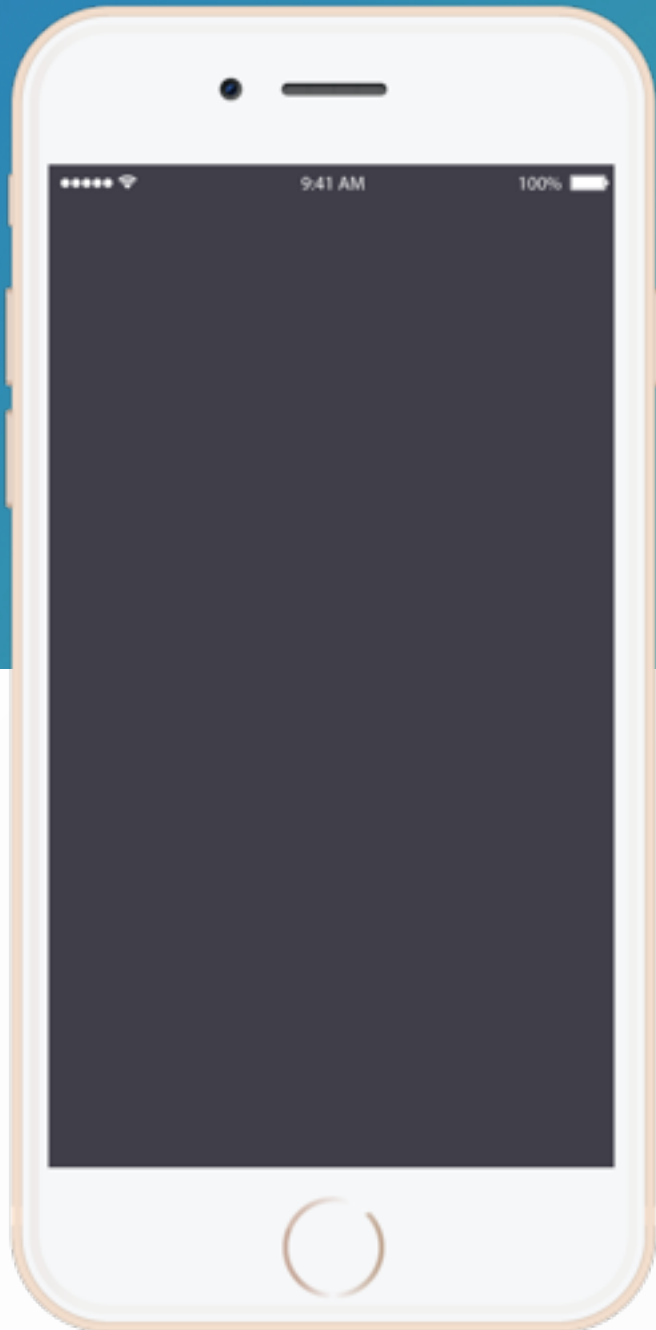
High fidelity
earplugs
\$9-\$20

Use NIOSH sound meter app

*It's free and published by OSHA. Find out what your
sound exposure is like in your different environments*

Limit time in very loud environments

*Rock clubs always require extra
hearing protection. Always. Period.*



TOOLS OF THE TRADE



Record yourself every day, both video and audio
Record yourself before and after you practice a passage



Keep track of pain and hours in your phone or journal



Saxes/brass: invest in harness and/or instrument stands



**Giggers with heavy equipment:
invest in equipment carts**



**Invest in a pair of high fidelity ear plugs (9-20Db)
and some cheap foam ones (30Db)**

great apps for efficient practice

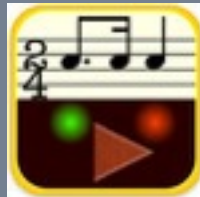
Hudle Technique
free



Video Delay
free



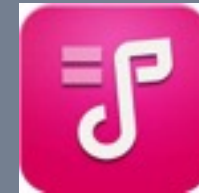
Read Rhythm
\$2.99



be the best
and
stay healthy!



NIOSH Sound Meter
free



Tunable
\$3.99



TW Recorder
free



Questions ???

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Take a handout please :)

THE END