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 lifetime

Note: Statistics do not include those that have retired or have exited the field.
most common forms of injuries

Musculoskeletal - tendonitis, carpel 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
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)

- 5 hours: 60%
- 6 hours: 75%
- 7 hours: 62%
- 8 hours: 35%
- 9 hours: 17%
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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

SHHH!
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

<table>
<thead>
<tr>
<th>INSTRUMENT</th>
<th>dB</th>
<th>Peak</th>
</tr>
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<tbody>
<tr>
<td>Violin/viola (near left ear)</td>
<td>85 - 105</td>
<td>116</td>
</tr>
<tr>
<td>Violin/viola</td>
<td>80 - 90</td>
<td>104</td>
</tr>
<tr>
<td>Cello</td>
<td>80 - 104</td>
<td>112</td>
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<tr>
<td>Acoustic bass</td>
<td>70 - 94</td>
<td>98</td>
</tr>
<tr>
<td>Clarinet</td>
<td>68 - 82</td>
<td>112</td>
</tr>
<tr>
<td>Oboe</td>
<td>74 - 102</td>
<td>116</td>
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<tr>
<td>Saxophone</td>
<td>75 - 110</td>
<td>113</td>
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<tr>
<td>Flute</td>
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<tr>
<td>Flute (near right ear)</td>
<td>98 - 114</td>
<td>118</td>
</tr>
<tr>
<td>Piccolo</td>
<td>96 - 112</td>
<td>120</td>
</tr>
<tr>
<td>Piccolo (near right ear)</td>
<td>102 - 118</td>
<td>126</td>
</tr>
<tr>
<td>French horn</td>
<td>92 - 104</td>
<td>107</td>
</tr>
<tr>
<td>Trombone</td>
<td>90 - 106</td>
<td>109</td>
</tr>
<tr>
<td>INSTRUMENT</td>
<td>dB</td>
<td>Peak</td>
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<td>-----------------------------------------</td>
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<tr>
<td>Trumpet</td>
<td>88 - 108</td>
<td>113</td>
</tr>
<tr>
<td>Harp</td>
<td>90</td>
<td>111</td>
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<tr>
<td>Timpani and bass drum</td>
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<tr>
<td>Percussion (high-hat near)</td>
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<td>125</td>
</tr>
<tr>
<td>Percussion</td>
<td>90 - 105</td>
<td>123-134</td>
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<tr>
<td>Singer</td>
<td>70 - 85</td>
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<tr>
<td>Soprano</td>
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<td>Choir</td>
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<td>Loud piano</td>
<td>70 - 105</td>
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<tr>
<td>Keyboards (electric)</td>
<td>60 - 110</td>
<td>118</td>
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<tr>
<td>Chamber music (classical)</td>
<td>70 - 92</td>
<td>99</td>
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<tr>
<td>Symphonic music</td>
<td>86 - 102</td>
<td>120 - 137</td>
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<tr>
<td>Noise Level (dBA)</td>
<td>Maximum Exposure Time per 24 Hours</td>
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<td>------------------</td>
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<tr>
<td>85</td>
<td>8 hours</td>
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<td>88</td>
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<tr>
<td>91</td>
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<tr>
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<tr>
<td>100</td>
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<tr>
<td>103</td>
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<tr>
<td>106</td>
<td>3.7 minutes</td>
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<tr>
<td>109</td>
<td>112 seconds</td>
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</tr>
<tr>
<td>112</td>
<td>56 seconds</td>
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<tr>
<td>115</td>
<td>28 seconds</td>
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<tr>
<td>118</td>
<td>14 seconds</td>
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<tr>
<td>121</td>
<td>7 seconds</td>
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</tr>
<tr>
<td>124</td>
<td>3 seconds</td>
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</tr>
<tr>
<td>127</td>
<td>1 second</td>
<td></td>
</tr>
<tr>
<td>130–140</td>
<td>less than 1 second</td>
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</tr>
<tr>
<td>140</td>
<td>NO EXPOSURE</td>
<td></td>
</tr>
</tbody>
</table>
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

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

High fidelity earplugs $9-$20
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
Playing for Keeps
INJURY PREVENTION FOR MUSICIANS
Take a handout please :)
THE END