



# The Importance of Hearing Health as Pianists

The Healthy Pianist continued





What is hearing health?





How loud is too loud?



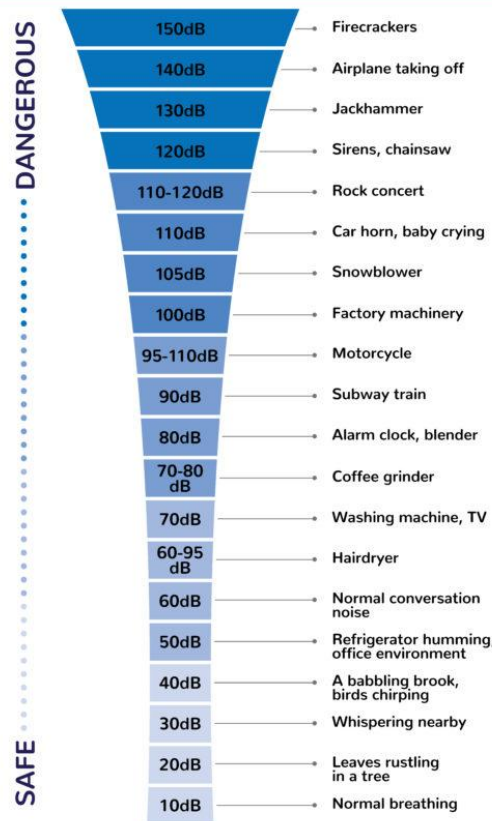
Instrument measured (at a distance of 3 m/10 ft unless otherwise indicated)	dB (A-weighted)	dB SPL (peak)
Normal piano practice	60-90	105
Loud piano	70-105	110
Keyboards (electric)	60-110	118
Vocalist	70-85	94
Chamber music (classical)	70-92	99
Violin/viola (at left ear of player)	85-105	116
Violin/viola	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
Trumpet	88-108	113
Timpani and bass drum	74-94	106
Percussion (hi-hat near left ear)	68-94	125
Amplified guitar (on stage using ear monitors)	100-106	118
Amplified guitar (on stage with wedge monitors)	105-112	124
Full symphonic orchestra	86-102	120-137
Amplified rock music	102-108	140+
Portable music (e.g., iPod) in ear canal (50% volume)	94	110-130*
iPod in ear canal (full volume)	105	110-142*

\* Depends on earphone used. Measured with a probe tube microphone situated near the eardrum.

Comparison of loud to quiet sounds	dB (SPL) peak
Damage caused to hearing tissue	180
Jet engine	155
Trumpet played as loudly as possible from 5 ft	150
Full symphonic orchestra	120-137
Piccolo (near right ear)	126
Threshold of pain	125
Cymbal clash	125
Planes on airport runway	120
Timpani and bass drum	106
Singer singing <i>fortissimo</i>	70
Conversational speech at 1 ft away	60
Average office noise	50
Quiet conversation	40
Quiet office	30
Quiet living room	20
Threshold of hearing	0

# SAFE vs. DANGEROUS DECIBEL LEVELS

Help prevent noise-induced hearing loss by learning general sound levels and how loud is too loud.



IF YOU'RE EXPERIENCING HEARING LOSS  
VISIT CAPTEL.COM



## NIOSH Allowable Noise Exposure Levels

Max. Exposure level in dB(A)	NIOSH Recommendations
80	Begin conservation programme
85	8 hrs.
88	4 hrs.
90	2 hrs., 31 min., 11.4 sec.
91	2 hrs.
94	1 hr.
95	47 min., 37.2 sec.
97	30 min.
100	15 min.
103	7 min., 15 sec.
105	4 min., 43.47 sec.
106	3 min., 37.5 sec.
109	1 min., 48.75 sec.
110	1 min., 29.292 sec.
112	54.38 sec.
115	27 seconds

# How do we protect our hearing?

Earplugs (etymotic earplugs are preferable)



Pianissimo Practice

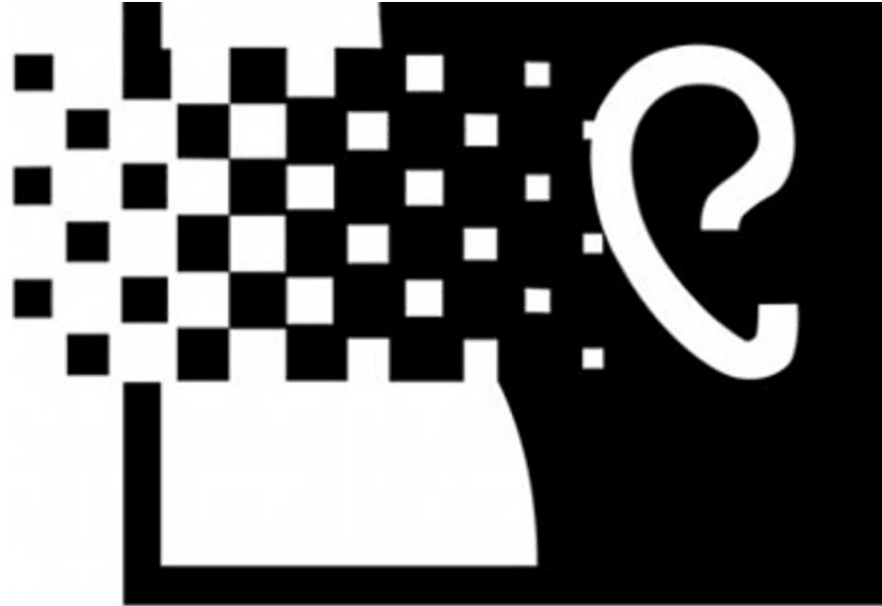


# What resources are available?

NIOSH SLM



Temporary Hearing Loss Test



# Conclusion



Southern Utah University