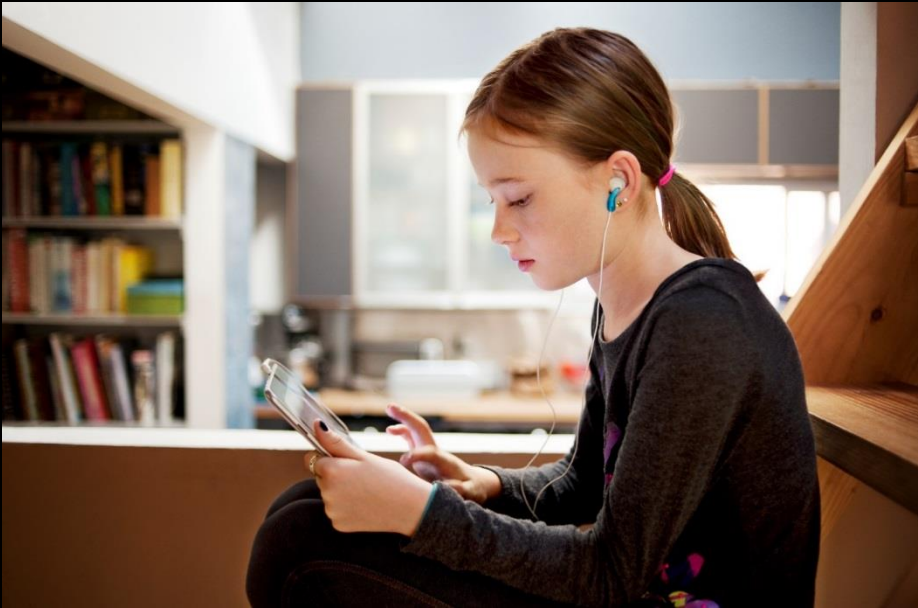


Dosimetry for Safe Listening

Possible applications
for the consumer

The Issue

Long term
unmonitored use of
headphones causes
avoidable hearing
loss.



43 million people aged 12-35 have hearing loss...from unsafe sound levels from personal audio devices

50% of 12 to 35 years old in middle and high income countries at risk of avoidable hearing damage and growing

The World Health Organisation - 1.1 billion people at risk of hearing loss – Press Release February 2015

The Challenge

To find an effective way to protect the hearing of headphone using consumers which is acceptable to them.

This challenge has already been met in the occupational headphone market.

Occupational challenge

Directive 2003/10/EC – noise - 85dBA maximum over 8 hours or equivalent.

Hearing health, financial and or legal consequences of non-compliance.

Fixed level limiting creates operational problems.

Sound quality must not be affected.

Occupational approach

Reduce the ambient sound.

Individual dosimetry for reproduced sound.

Permit periods of listening above the Average, offset against periods below.

Optimise the users' permitted dose.

Does not affect the sound quality.

Consumer options

Do nothing.

Fixed Level Limiters.

Individual dosimetry.

Do Nothing

Current situation.

Will lead to more hearing damage.

Possible health, financial and or legal consequences.

Not acceptable long term.

Fixed Level Limiters

Available now.

Assumptions on content and earpiece.

Problem for those with hearing issues.

Un-useable in many popular listening environments e.g. public transport.

Unpopular; often ignored or disabled.

Individual dosimetry

Permit periods of listening above the average offset against periods below.

Optimises the users' experience within their recommended dose level.

Does not affect the sound quality.

Can be tailored to accommodate those with existing hearing conditions.

Behavioural insights

Consumers resent being forced or told.

They like options

Useful and accurate information.

Option for dose-based protection.

Behavioural response

Measure.

Listening period.

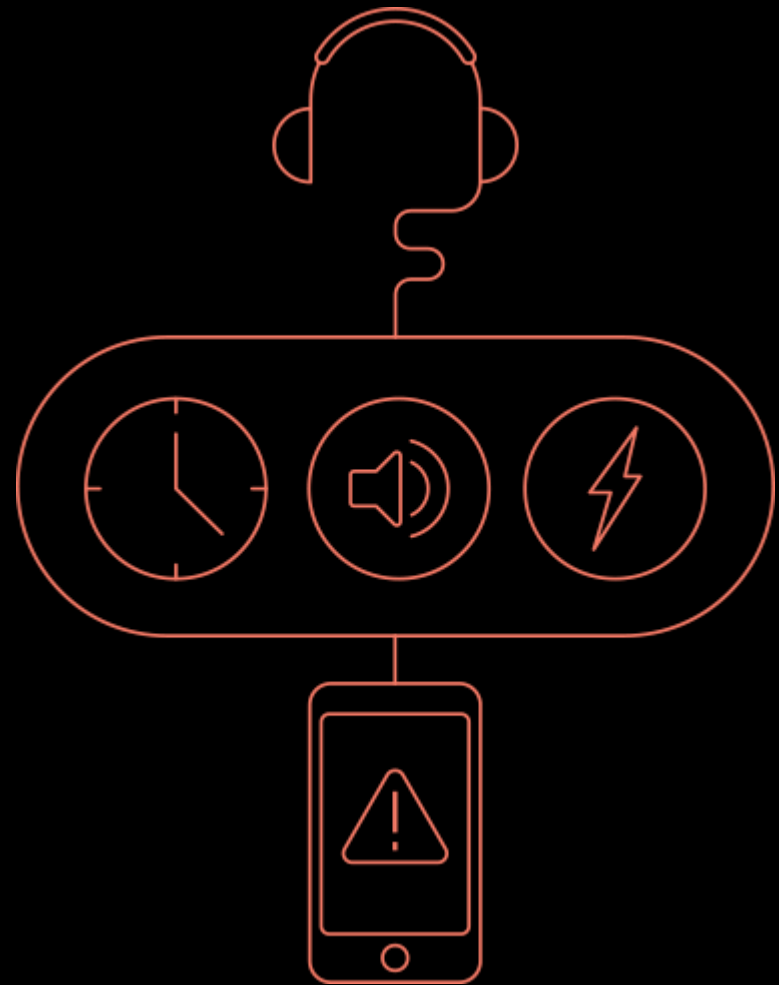
Volume level.

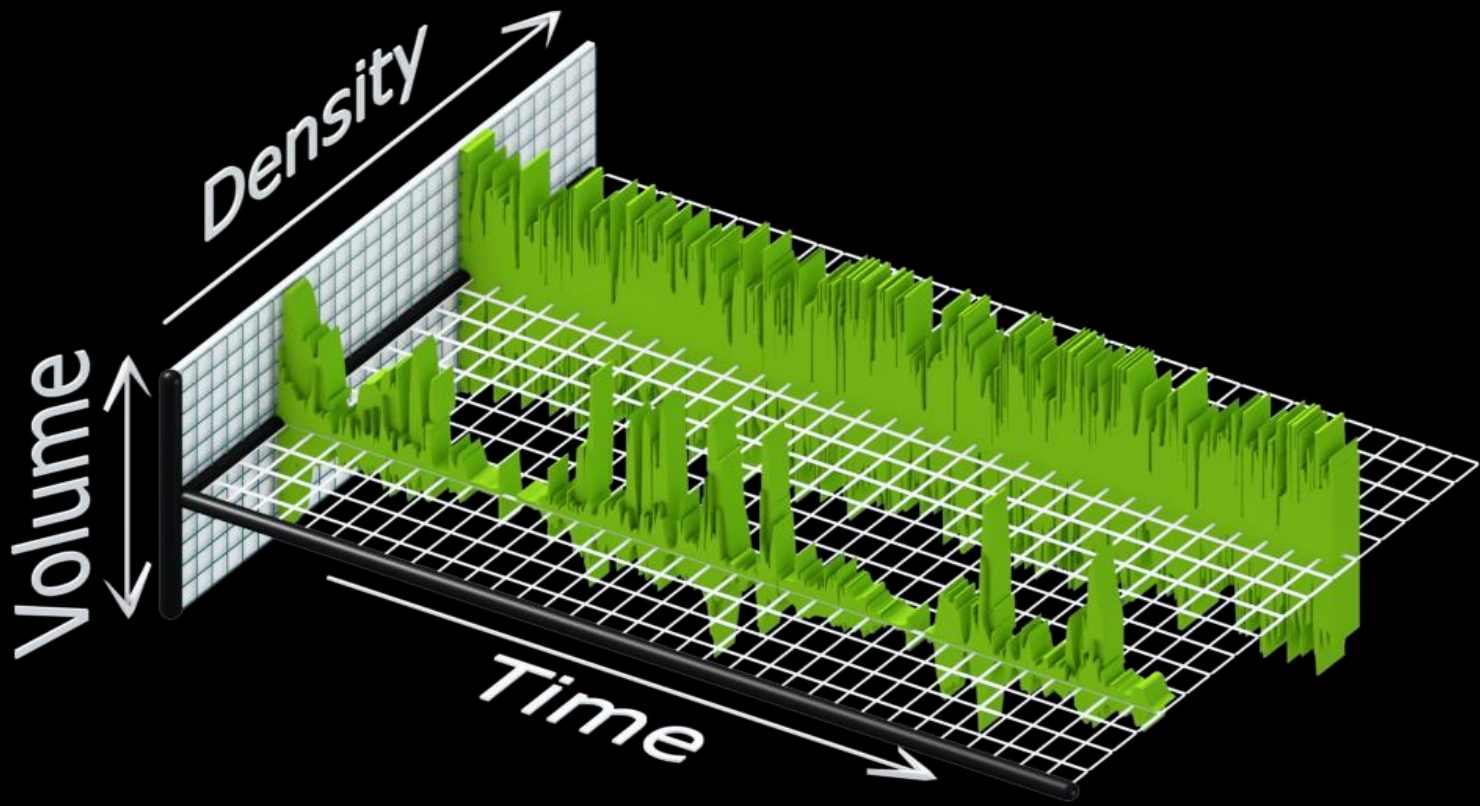
Energy content.

Inform.

Educate.

Protect.









Adult consumer:

Hearing dose status, data and reports.

Optional automatic hearing protection.



Parent/Carer:
Control of child's exposure
Hearing dose status, data and
reports
Automatic hearing protection

“It is strongly recommended that the MP3 player statistically presents accumulated listening time and sound levels on its screen. Making software that warns listeners when they listen to over 85 dBA SPLs for long periods of time is also recommended. This way, the consumers can know about the degree of sound levels produced by earphones ability and be cautious about damaging their ears.”

Jinsook Kim PhD, MPH, DDS

<http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3936544/>

Thank you for your
attention

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WHO-ITU Joint Stakeholders' Consultation for Safe Listening Devices 1st October 2015