Pilbara Iron
A member of the Rio Tinto Group

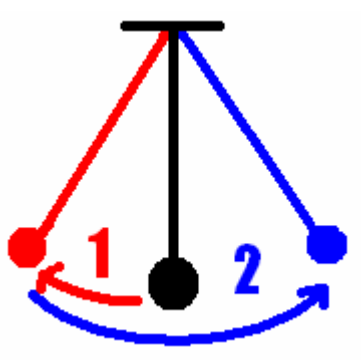
Health Promotion - April 2006

Industrial Hazards

Vibration

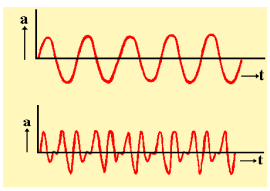
Every day, people are exposed to vibrations from many sources such as vehicles, vibrating machines and tools, so most people have a good idea of what vibration feels like, but not necessarily what vibration is.

Vibration can be defined as "an oscillatory motion of particles around their reference point of equilibrium in a solid body, a liquid or a gas." A person on a swing swinging back and forth can be an example of a vibration, illustrating the movement involved.

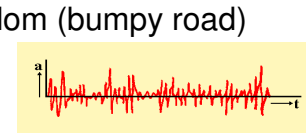


Types of Vibration:

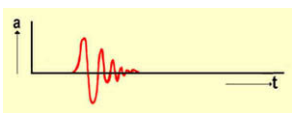
- Harmonic/Periodic (bad wheel balance)



- Random (bumpy road)



- Transient (hitting a pothole)



****In reality, all vibration experienced is a combination of all three types****

Noise

Noise is described as “any unwanted sound.”

Noise Induced Hearing Loss (NIHL) or *industrial deafness* is a serious problem in industry. Continual exposure to loud noise can permanently damage your hearing.

Damage is calculated according to how often and how loud the noise exposure is.

Hearing Protection Devices should always be worn to minimise the chance of hearing damage.

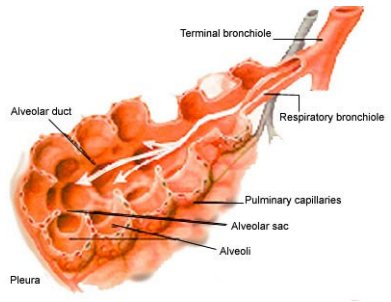
FREQUENTLY ASKED QUESTIONS

Q What is a high level of noise?
A If you are 2 metres from someone and have to raise your voice to be heard the noise level needs to be assessed.
Q What if I don’t wear hearing protectors all the time?
A Taking protectors off even for short periods can cancel their protective effect. To be fully protected, you need to wear protectors in any loud noise.
Q I won’t be able to hear what people are saying if I wear hearing protectors.
A If your hearing is normal you will find it easier to understand what people are saying when you wear protectors because your ears are not overloaded. It is like wearing sunglasses - you see better if glare is reduced.
Q Is there any point in wearing hearing protectors if my hearing is already impaired?
A Your ears will go on being damaged as long as they are exposed to excessive noise. The hearing you have left is precious and should be protected.

Dust

Dusts are everywhere. Whether dust causes a disease depends on the properties of the dust, the amount inhaled, the size of the particles and the efficiency of one's lungs at clearing themselves out.
Very fine, invisible, easily breathed in particles are most likely to cause disease.

Cilia (hairs) lining the nose to the lungs act as a trap to stop dust from harming us. They produce a mucus which dust settles on, the cilia acts as an escalator by constantly moving and depositing the mucus further up the lung passage to be spat out or swallowed harmlessly.



Occupational Health Technicians are responsible for the measuring and monitoring of dust levels and to make sure that the exposure to people, both at work and in the community, is limited to the smallest amount possible.

Remember your PPE (face mask & glasses) when working near dust.

Chemicals

Chemicals can gain entry into our bodies in the following ways:

1. Inhalation – vapours, gases, dust or airborne particles
2. Absorption – toxic substances can seep through the skin and eyes
3. Ingestion – chemicals taken in through the mouth

Short term effects	Dermatitis or skin problems
Single Exposure	A coughing spell
	Watering eyes
	Headaches
	Drowsiness
	Poor coordination
	Nausea
	Unconsciousness
	Death
Chronic Effects	Brain and Nervous System
Repeated Exposure	Skin
	Liver
	Lungs and Respiratory System
	Kidneys
	Fertility

Acute	Euphoria
(short term)	Poor concentration
	Unsteady gait
	Fits
	Coma
Chronic	Irritability
(long term)	Sleep Disorders
	Short term memory loss
	Reduced attention span
	Dementia
	Damage to nerves

CHEMALERT SYSTEM

Green – Low Hazardous Chemical
Amber – Moderately Hazardous Chemical
Red – Highly Hazardous Chemical