

Auckland Regional Public Health Service

Rātonga Hauora ā Iwi o Tamaki Makaurau



Working with the people of Auckland, Counties Manukau and Waitemata

Guideline Values for Noise in Early Childhood Education Centres

Noise can be due to external (“environmental”, “community” or “background”) noise, or can be generated within the centre by children and their activities.

The following maximum guidelines for external noise are based on the *Guidelines for Community Noise* (World Health Organisation, 1999):

Environment	Potential Health Effects	L_{eq} (dBA)	Time (hours)	L_{max} (dBA fast)	Reverberation time (seconds)
Sleep room	Sleep disturbance, sleeping hours	30	Sleeping time	45	-
Indoor learning areas	Speech interference, Disturbance of information extraction and message communication	35	During use	-	0.6*
Outdoor playground	Annoyance (from an external source)	55	During Play	-	-

- The reverberation time (or echo) gives an indication of how much of a problem internally generated noise may pose.
- Reverberation time should be much less than 0.6 seconds for hearing impaired children. Note that hearing impairment may not be diagnosed until children are older, so it would be prudent to minimise reverberation where possible.

To minimise the effect of noise on children’s learning and health, the centre should be designed to minimise background noise (very difficult when windows and doors need to be kept open). The centre should also have sound absorbent surfaces to minimise reverberation (e.g. carpet, acoustic tiles, noise-reducing wall linings). Activities should be scheduled to minimise the effect that noisy activities have on quieter activities or rest.

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