

RAILS, STEPS, EASY STEPS AND STAIRS

Information Sheet for EMS Assessors

The following information provides design/technical points, relevant aspects of Ministry of Health EMS funding and clinical considerations to think about during the assessment and modification process.

The EMS Assessor's role is to ensure that the person, family/whanau and caregivers are fully informed. This can be done by either providing the information yourself, by directing the equipment supplier and/or List Contractor/Builder to assist with technical or installation details.

Design/Technical Points about Rails, Steps and Stairs

Rails, External:

1. Height of the handrail is generally between 900mm – 1000mm above the step.
 - Specify the height required if different from the standard - where a child requires a lower height think about installing a rail with two heights, to suit the child and a parallel rail for adults
2. The rail must be designed in such way that the person is able to have continuous grip on the rail throughout the entire ascent/descent.
3. Handrail should extend parallel to the ground at least 300mm beyond the top and bottom step unless:
 - this encroaches on the person's path of travel (i.e. they need to turn 90 degrees at the top or bottom of the step) or
 - the rail obstructs a shared path or driveway
 - In both of the above cases the handrail should end in line with the edge of the bottom step but have the end of the rail turned down as a tactile cue for anyone with visual impairment as to where steps start/end.
4. The distance between the inner edge of the rail and the wall should not be less than 45mm.
5. Generally standard external rails are galvanized pipe (32mm diameter).
6. The design and construction of steps – straight, curved, open spaces between steps.
7. Wall surface for installation of rails (brick, weatherboard, laminate, standard wallboard, tiles).



Rails, Internal - Stairs

1. Standard internal banister handrails are generally wood / 35mm dowel, specify alternative grip design if required.
2. The distance between the inner edge of the rail and the wall should not be less than 45mm.

Rails, internal hand/grab rails

1. Diameter of handrail should not be less than 30mm or greater than 50mm.
2. Dry Area:
 - generally white powder-coated (fixed lengths 'off the shelf')
 - modular aluminum rails which can be cut to custom lengths e.g. tetral or canterbury concepts
3. Wet Area:
 - stainless steel with knurled texture (fixed lengths 'off the shelf') – think about hygiene with knurled surfaces and toilets vs type and texture for safety
 - modular aluminum rails which can be cut to custom lengths e.g. tetral or canterbury concepts
4. Think about where the rail/s will be placed, the handrail must be able to be fixed firmly and capable of supporting the person for all domestic use:
 - position of studs
 - plastic moulded shower cubicle – insufficient fixing
 - plumbing pipes behind the walls
 - risk of cracking tiles

Note: Generally homes built after 1992 should have a handrail (both internal and external) on one side of the stairs.

Become familiar with 'accessible' (universal) design guidelines as per the NZS4121:2001.

Stairs and Steps

1. A guide to acceptable stair riser heights and stair tread depths is:
 - Stair rise 180mm to 190mm plus a tolerance 10mm

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- Stair tread 280mm plus a tolerance of 10mm
- As per Building Act and related code of compliance documents New Zealand Standards for Accessible Environments (NZS4121:2001)

2. Things to think about:

- the person's strength, ROM and upper limb function, affecting ability to grasp, hold and release a rail. Generally horizontal rails are indicated for use to stabilize when standing or for pushing up; vertical rails
- vision – additional visual cues may be needed on steps such as white strip on edges
- position of the rail – unilateral (noting which specific side) or bilateral if the person has functional use of one hand only.

Easy Steps

3. Easy steps are a set of new steps that replace existing steps which are too shallow and too high for a person to use safely with a mobility aid such as a walker.

4. Easy steps are constructed from timber to create a large tread and a low rise so that the person can step up or down one step at a time with the walker.

5. Easy steps are custom made to suit the user but generally each step would be approx 600mm deep and 90mm in high. They need to have a non slip surface, and have handrails and level landings at top and bottom as for ramps.

6. Things to think about:

- Easy steps are only suitable if it has been demonstrated that the person has the strength to lift the frame up the steps and to control it down the steps and also has adequate cognition and vision to manage this safely.
- Easy steps are generally suitable when the person is ambulant and it is not expected that their mobility will deteriorate due to age or a progressive condition ie it is not expected they will become a wheelchair user.
- Easy steps are easily removable so may be a better option for a rented home or non permanent situation.
- Consider the amount of space required for the new steps, it is often deceptive and in some cases the material and labour involved means that easy steps are not necessarily a cost effective option. It may actually cost the same to install a ramp, in this circumstance a ramp is usually the preferred option as it will likely be suitable for all users and cover long term needs. This is particularly relevant for HNZA properties.



Ministry of Health EMS Funding Considerations

1. Funding can only be provided for one entrance to the home.

Note: If there is already a suitable rail in place at one entrance then EMS funding will not be available for a rail at an alternative entrance, irrespective of who funded the rail that is already in place.

2. Consider which entrance is the most practical and cost effective entrance to modify, things like:
 - the least number of or design of the steps
 - the most commonly used entrance to where a vehicle can be parked
 - any environmental features such as the slope of the land

3. the existing stairs or steps as the handrail can not be considered in isolation from the stairs / steps

4. review the heights and depths along with the critical factor of 'evenness' of the height between each step against the other steps in the whole flight.

Note: Uneven or oversized height or depth will likely to be considered as being unsafe for general population regardless of disability, and therefore funding will not be available. This will be considered rectification work by the home owner.

5. The long term needs and cost effectiveness in relation to rails vs easy step vs ramp vs low rise lift - the potential for the person's function to improve or deteriorate eg a walker or a wheelchair might be needed in the future
6. Internal Hand/Grab Rails – Funding for stainless steel is generally only considered for wet areas, however you need to consider the most cost effective option and provide rationale about why other more cost effective options would not meet the need, e.g. canterbury concepts/tetral rails

