

Child Restraints

*Why they should be a Priority.....
....but are not*

A Crash Analyst & Restraint Technician/Trainers Perspective

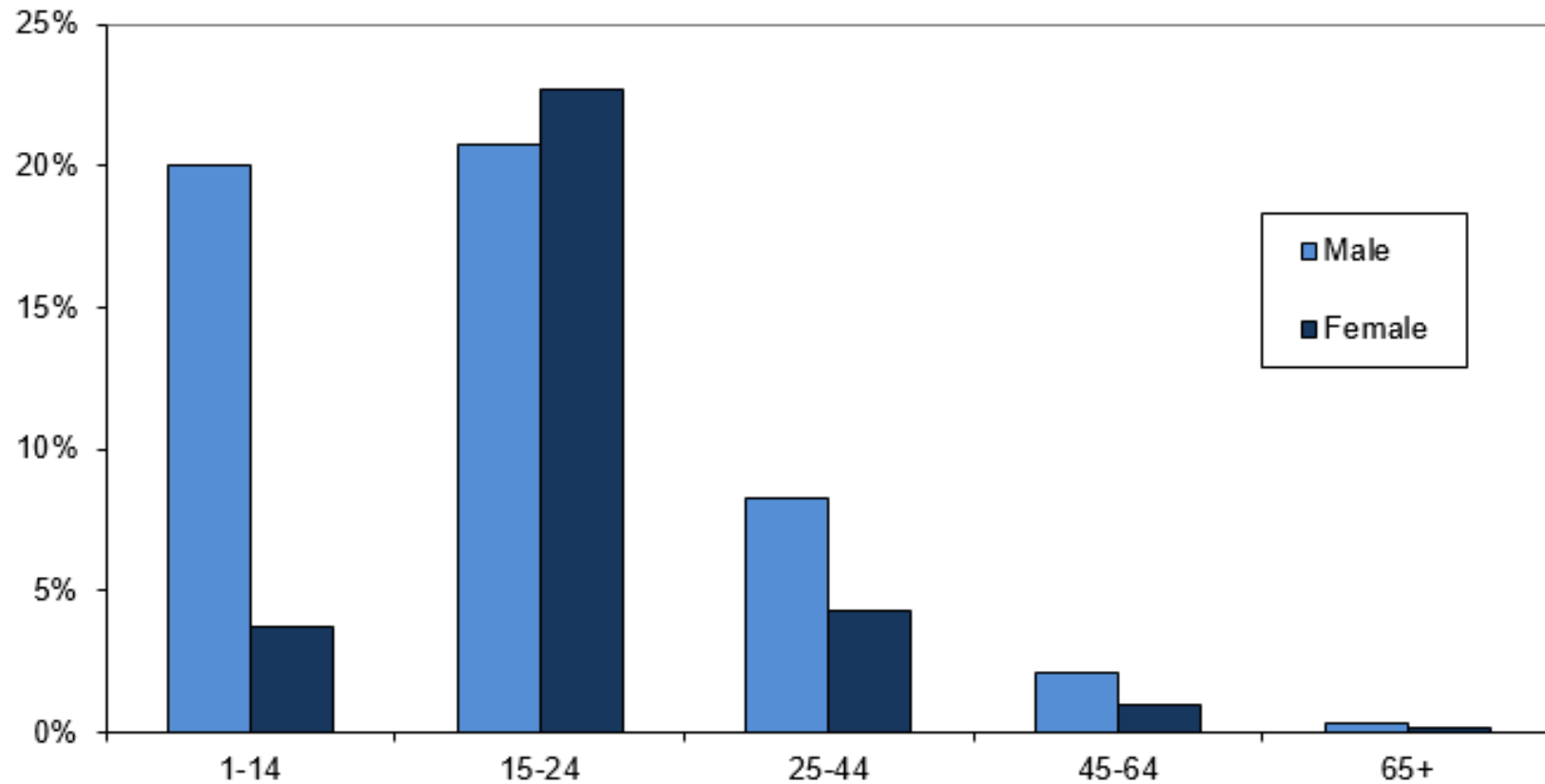


The Facts

- 👤 Worldwide a child dies in car crash every 8 minutes
- 👤 270 hospitalisations, on average 22 a month*
- 👤 In 2016, 10 deaths 550 injured*
- 👤 8 deaths so far in 2018*
- 👤 18th out of 29 OECD countries for death rate (children 0 – 14)
- 👤 Maori are disproportionately represented

* For children 0-9

The NZ Statistics



Deaths from crashes as percentage of all deaths

Effectiveness

Child restraints reduce the likelihood of a fatal crash by:

Approx.
70%
among infants



Between
54%-80%
among young children



**World Health
Organization**

Global status report on road safety 2015

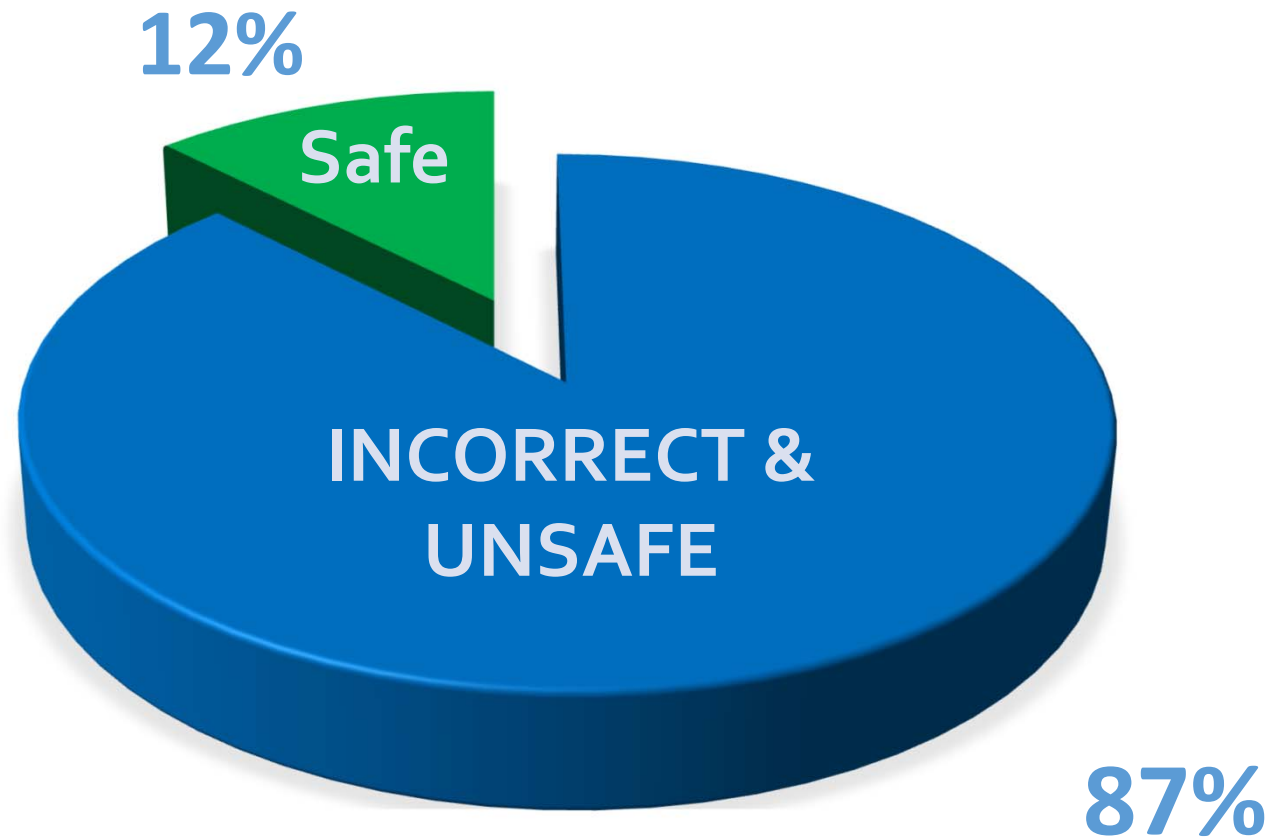
www.who.int/violence_injury_prevention/road_safety_status/2015/en/



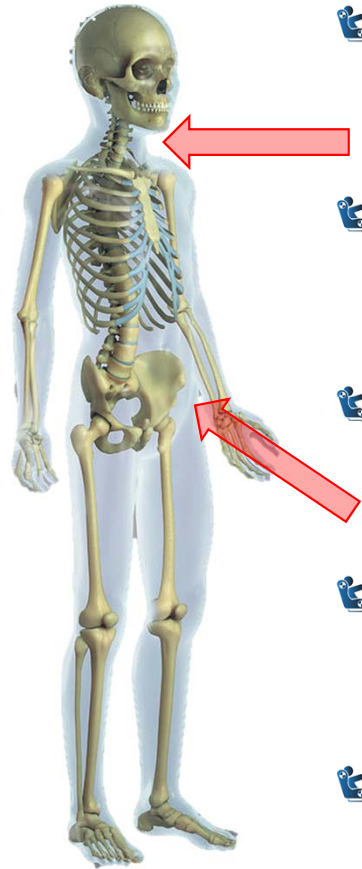
The New Zealand Child Restraint Paradox

- 👤 There is a public and organisational myth that we do not have a problem.
- 👤 Ministry of Transport data;
 - 👤 In 2016 93% of children under the age of 5 were in appropriate restraints
 - 👤 In 2015 only 26% of children 5 – 9 were in an approved child restraint
- 👤 However this is **observational** study data using untrained staff

The New Zealand Child Restraint Paradox



Children are **NOT** little Adults



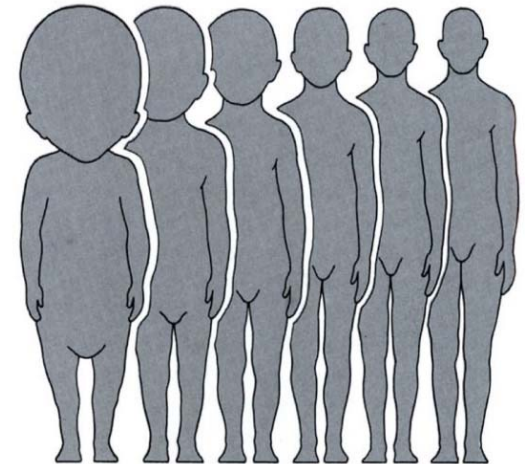
🦋 Children's vertebrae have larger portions of cartilage where as adults ours are fused

🦋 Combined with the spine flex at the base of neck, makes children more prone to spinal injuries

🦋 Children's heads are proportionally larger, however t not

🦋 Children's rib cage has less structural stiffness lea internal organs less protected

🦋 A child's pelvis is still a number of distinct unfused lack the pointed protrusion on the front edge like



Child Restraint Role

- 🚗 Offers additional head, neck spinal protection
- 🚗 Spreads forces over wider proportion of the body
- 🚗 Spreads force over strongest parts of the body
- 🚗 Offers additional side impact protection
- 🚗 For a seatbelt booster they lift the child up and align the seatbelt path away from vital areas





Law versus Safety

At 7 years old Liam can legally sit without a child restraint

However he is only 124cm tall

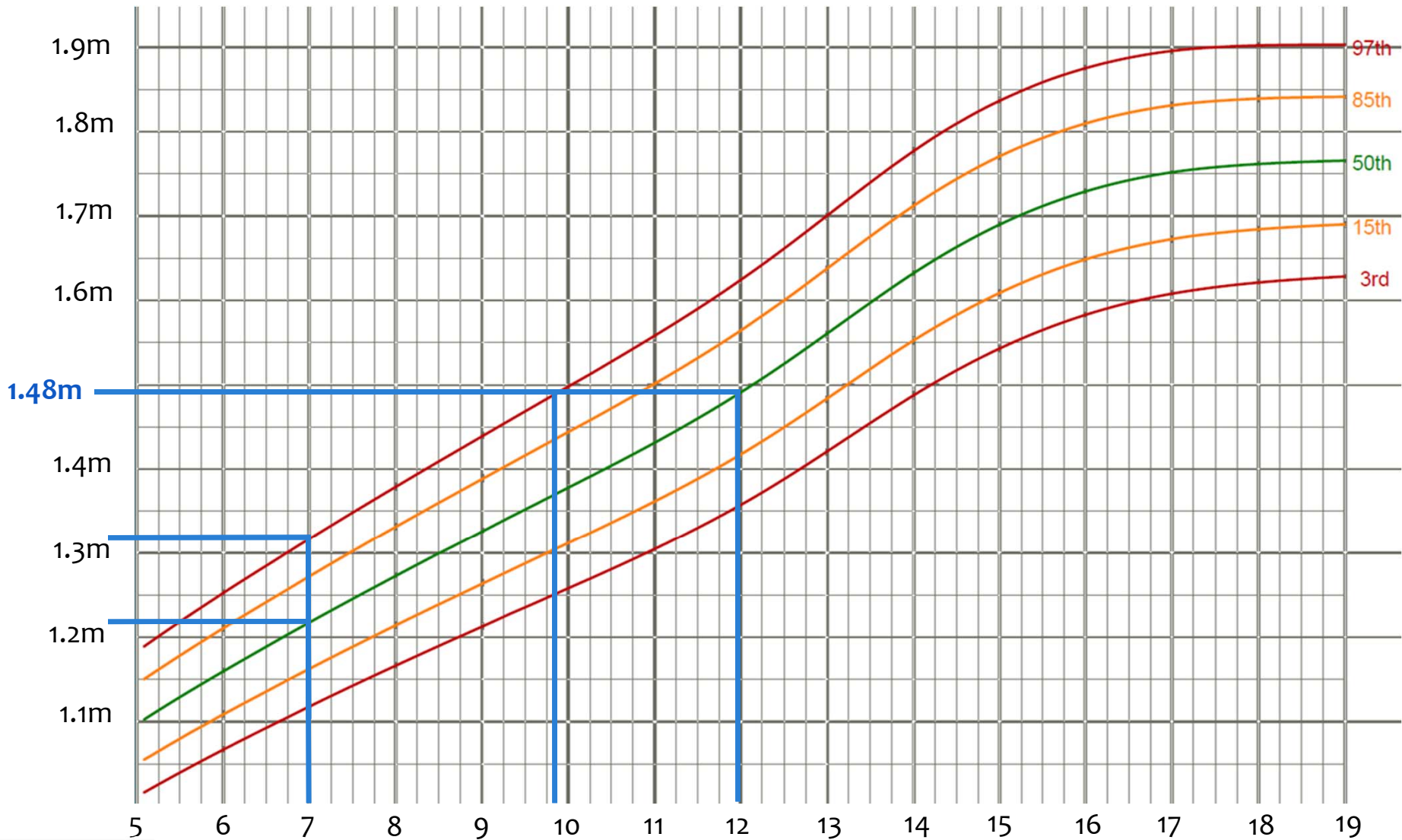
Legal but **NOT** safe

International best practice is
148cm tall

Moving to a Seatbelt too early



ATD III Child Dummy 50th Percentile 6 year old.



1.48m

When it Goes Wrong

6 Month Old

Forward Facing

Restraint not belted into van at all

Harness incorrectly routed & set for a 2 year old

Tether not attached and hanging out the door

Travelling at 50km/h





WHEN WE KNOW BETTER
WE CAN DO BETTER

Thank You

Bruce Wilson



0211920725



Bruce.Wilson@police.govt.nz

