



**FACULTY OF
PAEDIATRICS**

ROYAL COLLEGE OF
PHYSICIANS OF IRELAND

E-Scooter Falls and Brain Injuries in Children: Call for action in Ireland

FACULTY OF PAEDIATRICS
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Contents

About the Faculty of Paediatrics	3
Executive Summary	4
Introduction	5
Background	6
Risks associated with E-scooter use	7
Legislation and regulations – other jurisdictions	8
Traumatic Brain Injury (TBI) in children in Ireland due to e-scooter falls	9
Discussion	11
Conclusion – Faculty of Paediatrics Position	12
Recommendations	13
References	14

About the Faculty of Paediatrics

The Faculty of Paediatrics is the national training and professional body for paediatricians in Ireland. Paediatricians diagnose and manage health issues affecting infants, children and young people - from birth through adolescence.

Since its inception, the Faculty of Paediatrics has been a steadfast advocate for children's health. It has championed initiatives such as the establishment of a new children's hospital, the promotion of vaccination benefits, the prevention of childhood obesity, and raising awareness about the dangers of smoking and vaping. Additionally, the Faculty has highlighted the impact of homelessness and Direct Provision on children, opposed prolonged school closures during the COVID-19 pandemic and in 2025, highlighted health and wellbeing concerns for young people when engaging online¹.

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Executive Summary

The Faculty of Paediatrics at the Royal College of Physicians of Ireland is urging the government and relevant agencies to take immediate action to address the sharp rise in serious injuries to children caused by e-scooter falls.

E-scooters and Traumatic Brain Injury in Children

E-scooter accidents are now the leading cause of traumatic brain injuries (TBI) in children admitted to CHI at Temple Street, Ireland's paediatric neurosurgical centre. Between June 2023 and May 2024, one child was admitted with a TBI from an e-scooter fall. Since May 2024, more than 25 children have been admitted for the same reason. Other CHI emergency departments have also reported a worrying rise in e-scooter-related injuries, with more than one child per day currently attending Dublin paediatric emergency departments with e-scooter related injuries. This is despite legislation prohibiting under-16s from using e-scooters on public roads.

Many children required brain surgery, intensive care, and spent an average of 19 days in hospital - similar to children hit by moving motor vehicles. Those admitted with TBI from e-scooter falls stayed in hospital five times longer than children with TBI from bicycle falls.

While some recover physically, many face lasting difficulties. About 40% still had cognitive problems a month after discharge, including trouble returning to school, personality changes, and persistent fatigue. Most patients were male, not wearing helmets, and accidents typically involved loss of control rather than collisions with other vehicles.

Awareness of risks and legislation

E-scooters became legal on Irish roads in May 2024 for those aged 16 and over. Despite this, many families of an injured child were unaware of the age restriction or the risk of serious injury. Internationally, regulations vary, with some countries imposing stricter limits than Ireland.

Recommendations – Why Action Cannot Wait

Brain injuries cannot be fully undone, and prevention is the only real solution.

The Faculty of Paediatrics thus is calling for:

- 1 **Public awareness campaigns** to highlight age restrictions and dangers of serious injury, and to advise parents not to purchase e-scooters for their children.
- 2 **Stronger enforcement** of existing laws by Gardaí and relevant authorities.
- 3 **Review of legislation** to explore further measures to protect children.

Introduction

The use of electric scooters ("e-scooters") in public spaces has become more widespread and common in Ireland in recent years. Concerns have been growing regarding the risk of injury associated with e-scooter use in the context of a significant and worrying increase in the number of children admitted to hospital due to e-scooter accidents.

This paper examines the growing number of e-scooter-related injuries in children, explores their impact for the children involved, and offers recommendations to help address the problem.

This is not a systematic review; we have reviewed recent relevant evidence and focused the attention of this paper on current Irish data regarding presentations and admissions to hospital.

This position paper is written regarding e-scooters approved for use on public roads in Ireland subject to rules and provisions set out in law (see below). Any other battery-powered scooters are beyond the scope of this position paper.



Background

Electric scooters (e-scooters) are a battery-powered method of personal transport which has proliferated in Ireland and worldwide in recent years.

This has occurred in the context of improvements in technology, which has led to significant growth in the rental and private ownership markers for e-scooters. Legislation came into effect in Ireland on May 20th, 2024, making e-scooters legal for use on public roads in Ireland, subject to specific restrictions². As per legislation, e-scooter users must:

- Be 16 years old, or older
- Obey a speed limit of 20 km/h
- Drive on the left, noting that e-scooters are allowed in cycle lanes, bus lanes, and on local, regional and national roads (but not in footpaths, pedestrian areas or motorways)
- Have lights, a bell or audible warning device, reflectors and brakes on their e-scooter, which must be kept in a roadworthy condition.
- Obey all rules of the road

It is forbidden to carry passengers or goods, to use an e-scooter with a seat, or to hold or use a mobile phone while operating an e-scooter. No driving test or licensing procedures for e-scooters are currently in effect.



Risks associated with e-scooter use

Both in Ireland and worldwide, concern is growing about the increased risk of injuries associated with e-scooter use both in adults and children.

Published research regarding long-term outcomes is limited by the fact that the proliferation in e-scooters is relatively recent, but hospitals and trauma centres throughout the world have reported an alarming increase in presentations to hospitals with e-scooter injuries, many of which are severe.^{3,4,5,6}

Generally, research suggests those sustaining e-scooter injuries are more likely to be male than female. Research also indicates that a majority of those injured were not wearing protective helmets; even in Australia where a helmet mandate is in effect, over 40% of children admitted in one study were not wearing helmets.⁵ Research from France indicates that e-scooter accidents are associated with a higher risk of traumatic brain injury than accidents involving motorbikes or bicycles.⁶

In 2022, the HSE Public Health Medicine Environment and Health Group published a position paper on e-scooters in Ireland.⁷ With regards to injuries, the group noted that head injury was common among e-scooter users. The group recommended mandatory helmet wearing for e-scooter users, noting the evidence suggesting that helmets reduce the risk of serious traumatic brain injury and death in road users.⁸ The group noted some contributors to the specific contributors to the risk of serious injury for e-scooter users, including the potential to reach high speeds, the close proximity to the ground and consequent reduced reaction times, increased vulnerability to falls resulting from small obstacles such as potholes.

The Road Safety Authority published the results of a survey of adult e-scooter users in May 2025⁹. This survey identified that e-scooters were now perceived to be the most dangerous form of transport in Ireland, surpassing the perceived risk of injury associated with motorcycles and all other vehicles. Three quarters of regular e-scooter users were found to be male and under 35 and approximately 1 in 4 had been involved in a fall or collision (all of whom were male). Non-compliance with regulations was commonplace; one in three respondents indicated they operated e-scooters on footpaths, and 13% carried children as passengers. E-scooter usage was estimated by the RSA to triple in the next 12 months among adults.



Legislation and regulations – other jurisdictions

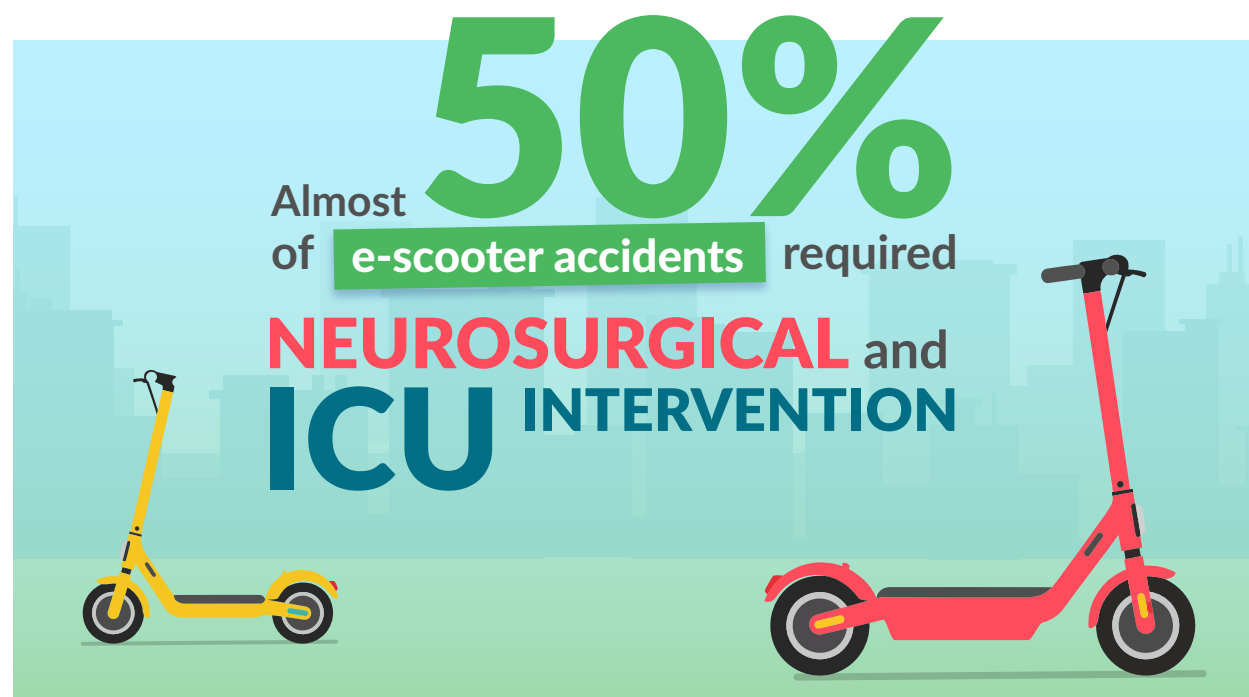
Other jurisdictions continue to consider the correct approach to managing the risks to public health associated with e-scooter use.

The use of privately-owned e-scooters on public land remains illegal in the UK; they are classified in the UK as motor vehicles requiring insurance and as insurance is not offered to cover their use they are not permitted for use on public roads. Their use is restricted to private land, with the landowner's permission. Trials are ongoing exploring the safe use of rental e-scooters in the UK- participants in trial areas are required to hold a current driving license to operate an e-scooter¹⁰; of note, privately owned e-scooters remain illegal even in trial areas.

Conversely, the city of Paris banned the use of rental e-scooters by public referendum in 2023 in the context of concerns regarding injuries and deaths; the use of privately owned e-scooters remains permitted in Paris subject to relevant regulations.

Elsewhere in the EU, e-scooter regulations vary widely with no consistent rules regarding minimum age limits, speed limits or helmet wearing. In 2024, the EU directed that e-scooters must be insured if the maximum design speed exceeds 25 km/h, or if the maximum net weight exceeds 25kg and the maximum design speed exceeds 14km/h.¹¹

Australia mandates the use of helmets by e-scooter users; age limits vary by state. Some states in Canada have a helmet mandate for users under 18, with a minimum age of 16 years for e-scooter users.



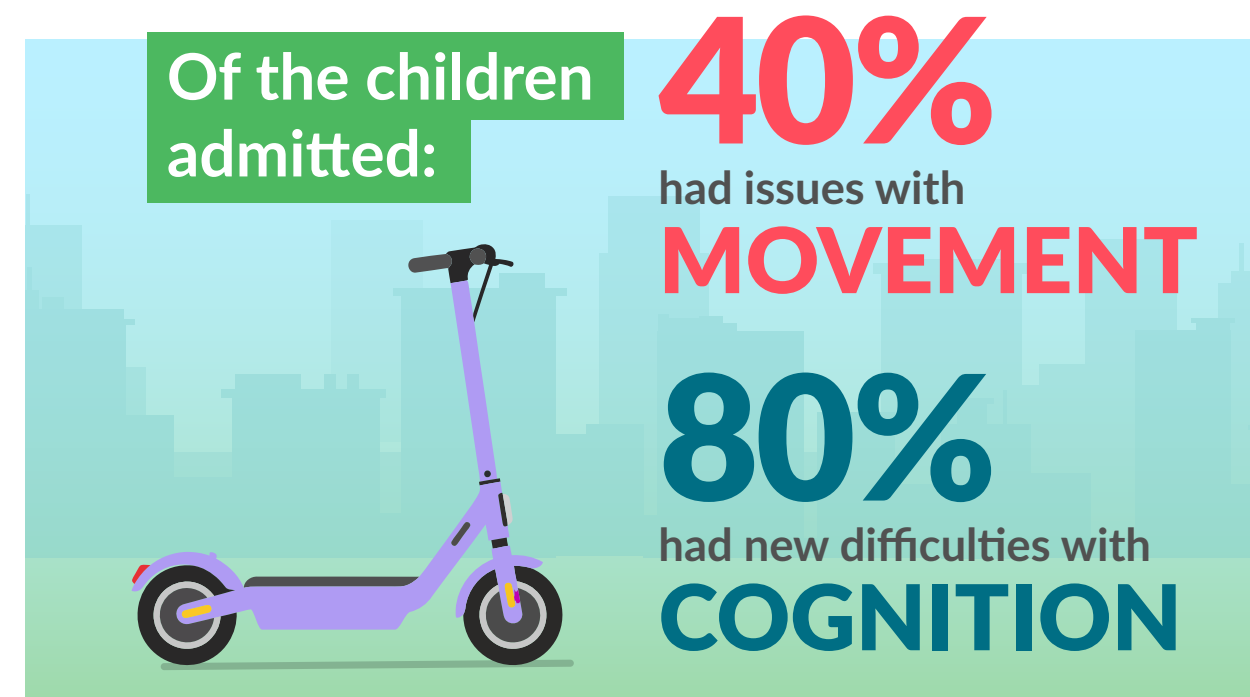
Traumatic Brain Injury (TBI) in children in Ireland due to e-scooter falls

Children's Health Ireland (CHI) at Temple Street is a tertiary paediatric hospital and Ireland's national neurosurgical centre. It is also the home of the CHI Acute Rehabilitation Service, which provides specialist rehabilitation care to children with acquired brain and spinal cord injuries admitted under the neurosurgical team.

Since May 2024, CHI at Temple Street has noted a significant and alarming increase in the incidence of traumatic injuries related to e-scooter use in children- noting that as the upper age limit of admission to CHI at Temple Street is 16 years, any child admitted is not permitted by law to operate an e-scooter.

From June 2023 to May 2024, one child was admitted to CHI at Temple Street with traumatic brain injury (TBI) due to an e-scooter accident. **Since May 2024, over 25 children have been admitted with TBI due to e-scooter falls, making e-scooters the current leading cause of admissions of children with traumatic brain injury to Ireland's national neurosurgical centre.**¹²

Similar to international findings, the majority of patients (95% in this cohort) admitted with TBI post e-scooter accident were male and 95% were not wearing helmets. The vast majority of admissions were single e-scooter crashes, resulting from a loss of control of the e-scooter or collisions with potholes, walls, or parked vehicles. A small minority of accidents were associated with "doubling", where two children were using the same e-scooter. 95% of children admitted with TBI after e-scooter accidents were not wearing a helmet. Many were reported by witnesses and first responders to have been travelling in excess of the legal 20 km/hr speed limit.



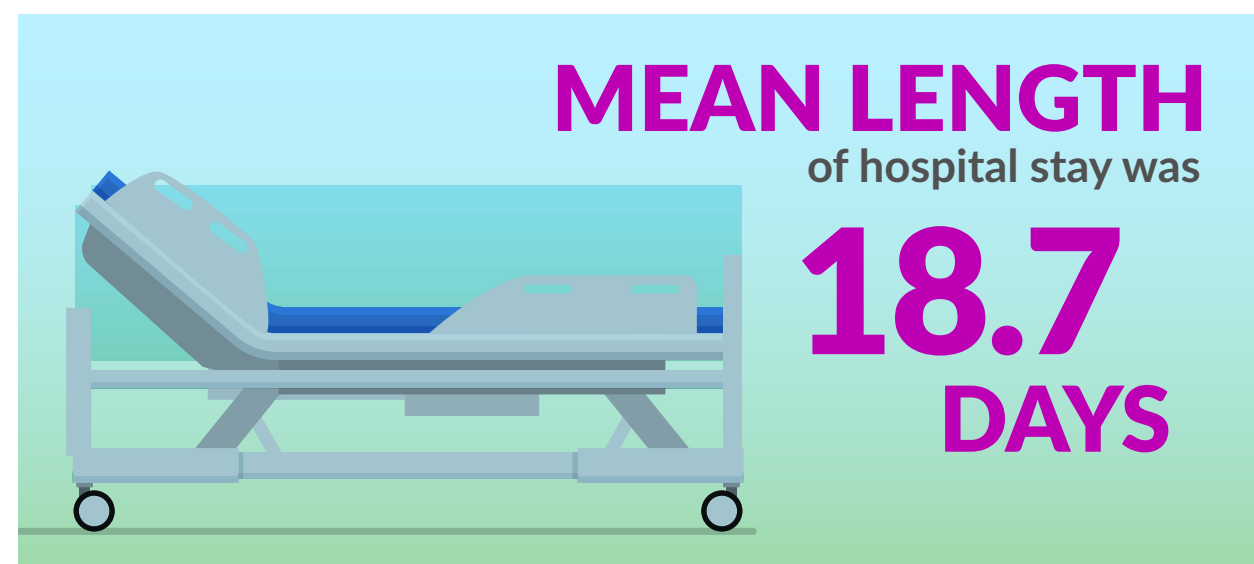
Approximately one third of e-scooter accidents resulting in admission with TBI occurred in Dublin. The mean length of stay for patients admitted to Temple Street was 18.7 days, which is nearly identical to the length of admission for children whose TBI resulted from being struck by a moving car as a pedestrian or cyclist, and five times longer than the mean length of stay for children admitted with TBI as a result of a fall from a bicycle.

Almost half of children admitted with TBI required neurosurgical intervention and ICU admission. During their inpatient stay for rehabilitation input, 40% of this cohort had new issues with muscle tone and movement, and 80% had new difficulties with cognition, including difficulties with memory, orientation, behaviour and learning. Just under half of the cohort (40%) had ongoing difficulties in one of these areas over 1 month post discharge. As time passes, an increasing number of children are presenting to outpatient clinics with difficulties returning to school, new personality changes, and persistent fatigue as a result of their brain injuries.

Feedback from families has indicated that many report being unaware of the legal age limit of 16 years. Several children have been injured while operating e-scooters owned by friends, rather than by the child's own family.

In addition to admissions to CHI at Temple Street as outlined above, the Emergency Departments across all CHI sites have noted **that since 2021 there has been a four-fold increase in the number of children presenting with e-scooter related injuries from less than 100 attendances in 2021 to more than 400 projected attendances by the end of 2025.**¹³

With presentations having doubled since the commencement of legislation in May 2024 compared with the preceding year. Most of these injuries are sustained as a result of falls and collisions which are reportedly often at high speeds above 20km/h. The majority of injured children were travelling on the e-scooter themselves, but there are several who were struck and injured by an e-scooter including children under the age of 5 years. The most common injuries are head injuries followed by limb injuries, with some categorised as major trauma as per the Irish Children's Triage system with activation of the hospital major trauma team, followed by emergency surgery and admission to the intensive care unit.



Discussion

E-scooters are currently causing potentially life-changing injuries in children in Ireland at an alarmingly increasing rate. They are now the leading cause of traumatic brain injury in children admitted to Ireland's national neurosurgical centre.

Length of admission is often used as a proxy marker for severity of injury in rehabilitation units; children with TBI due to e-scooter falls have comparable lengths of inpatient admission to children with TBI as a result of road traffic accidents involving cars, which likely reflects the significant velocities involved. These admissions were associated with a significant need for medical input including neurosurgical intervention, admission to intensive care, radiological investigations, referral to community-based specialist services and ongoing need for follow-up with tertiary hospital services.

There has also been a dramatic increase in attendances to CHI Emergency Department with other e-scooter injuries. In 2025, a child attends ED with e-scooter injuries more than once every day, with the rate of attendance having doubled since May 2024.

The cohort of children severely injured because of e-scooter falls are mostly male, and mostly not wearing helmets. While helmet use would likely not have prevented all injuries sustained, wearing a helmet could have prevented some injuries and reduced the severity of others.

Most families have reported that they were unaware of a legal minimum age limit of 16 years for e-scooter users; even where families are aware, in several cases children were injured while operating e-scooters which belonged to a friend.

Most injured children made initially good physical recoveries. It is very concerning that a high proportion were noted to have new cognitive difficulties during their inpatient admissions.

The potential impacts of traumatic brain injury on children and young people include difficulties with movement, sensation, communication, feeding, cognition, learning, behaviour, self-care, and mental health. The long-term difficulties and disability caused by TBI are challenging to predict at the time of injury. Some needs are apparent from the time of injury and require prompt intervention; others often do not become apparent until later in a child's development, sometimes years after their brain injury. Much of the disability caused by brain injury is invisible. A young person may appear outwardly unchanged by their TBI, with the result that behavioural and cognitive difficulties are often missed, misattributed or misdiagnosed. This leads to delays in accessing appropriate supports in the absence of dedicated support structures, which can impact on all aspects of a child's life including their education.¹⁴ Paediatric specialist rehabilitation systems and services in Ireland are known to be under-developed compared to demand, which increases the risk of the needs of children and young people going unmet.¹⁵

Provision of acute, subacute and long-term rehabilitation is the mainstay of treatment for young people following TBI and is known to improve outcomes and reduce long-term healthcare and social care costs. Rehabilitation aims to improve functioning and enhance participation via an interdisciplinary approach tailored to each individual, mindful of their specific medical issues in the context of agreed individual goals and broader environmental context.

Conclusion – Faculty of Paediatrics Position

The recent experiences regarding admissions of children and young people with TBI due to e-scooter falls suggests that current regulations are not keeping children safe.

Children are demonstrably at higher risk of injury now than they were prior to the publication of the May 2024 legislation which made e-scooters legal to use on public roads in Ireland.

The rate of admissions continues to increase, and in the context of the RSA's estimates that e-scooter use may triple between 2025 and 2026 the Faculty of Paediatrics is extremely concerned about the burden of additional traumatic brain injury in children that may continue to rise should the current situation continue unchecked and without significant intervention.

The Faculty would welcome a broad multi-agency approach to this issue, with an opportunity for input from government, Road Safety Authority, An Garda Síochána, educators, retailers, young people and their families.

While we recognise the popularity of e-scooters and their benefits (including both environmental and health benefits), balancing these against the clear risks is a nuanced area. While there may be potential health benefits to overall community health, through reduced air and noise pollution, the alarming increase in serious injuries being seen in children warrants action.



Recommendations

- 1 Families of children admitted to CHI with e-scooter injuries frequently report being unaware of rules regarding a minimum legal age limit of 16 years for e-scooter use. Given how recent the increase in admissions with e-scooter injuries is, awareness of the risks of serious injury associated with e-scooter use among the public is also likely limited in both adults and children. **We call on appropriate State authorities, including but not limited to the Road Safety Authority and Department of Transport, to engage in meaningful public awareness efforts to ensure that children and families throughout Ireland are aware that e-scooters as described and defined above must not be operated by anyone under the age of 16, to advise parents not to purchase them for their children, and to ensure that the public are aware of the potentially serious injuries that can result from e-scooter use by children.**
- 2 Current regulations are not keeping children safe. **We call on relevant authorities, including but not limited to an Garda Síochána and the Department of Transport, to explore how to better and more vigorously enforce existing legislation regarding e-scooter use pertaining to children, and in general.** None of the children whose experiences have informed this paper were legally permitted to be operating an e-scooter.
- 3 **We call on the Government and relevant authorities to meaningfully explore all options in relation to keeping children in Ireland safe from e-scooters, including reviewing existing legislation and considering revisions.** It is notable that there is no global consensus on rules and regulations regarding e-scooters in children, and that several countries have more restrictions in place than Ireland- including, notably, the UK, where the use of e-scooters on public roads remains illegal. Questions pertaining to minimum age limits, helmet mandates, training, licensing, registration, insurance, penalties and speed limits should be considered broadly, as should the option of considering an outright ban on the use of e-scooters on public roads should the data regarding the risks of e-scooters warrant such an approach.

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