

Scoot Fit Position Paper Response to the proposal for a
Regulation on the safety of toys and repealing Directive
2009/48/EC (COM (2023)462)

Amending Annex I – Part II ‘Products that are not
considered as toys within the meaning of this Regulation’

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Classification of Toy Scooters EU-71

Dear Mr Wetterberg

The topic of scooters is vast and in-depth, I have prepared a summary of key points related to the classification of toy scooters under 20kg, as regulated by the EU-71 directive.

Although I can provide a written explanation, I believe that discussing this matter verbally could be more effective. I would be more than happy to present my findings and engage in a question-and-answer session to ensure a thorough understanding of the topic.

To help make the topic more transparent I have included photos as they can often paint a thousand words.

Safety from falling is the no1 priority when working with scooters, facial injuries can occur if a rider falls and does not control the fall or react to protect their face. This is part of basic Scoot Fit training in educational settings.

Our target is to take children from 3-8 years old onto a scooting pathway that will result in an 8-year-old children being able to confidently balance, control and stop with speed awareness using the Razor A5 Lux (or similar spec) for active travel journeys and to play Scoot Ball – Football on scooters. Setting them up for a lifelong skill of scooting.

To aid this parents and children need to know which type of scooter is best for them and don't use a scooter which is beyond their balance ability and is not fit for purpose.

The toy scooter category of 20kg and under does not contribute to a child's balance development due to a flawed design that impedes progress and prevents them from following the appropriate pathway, deeming them not fit for purpose.

By making toy scooters available to purchase, it can inadvertently discourage children from accessing the appropriate type of scooter designed to support their development.

By persisting to try and use a scooter that is not designed to support their development, children may become disheartened and give up on scooting altogether, missing out on the many benefits of active travel and Scoot Ball.

Before diving into the topic, let's consider the journey of a child who wishes to engage in scooting as a means of transportation, sport, or recreational fun from their early years. Typically, a child can begin scooting at around 3 years old, when they have outgrown prams and must choose between walking, scooting, or cycling for various journeys, such as trips to nurseries, shops, parks, or simply scooting with friends.

Selecting an appropriate scooter for a 3-year-old child can be a daunting task for parents, given the wide variety of available options. Some factors to consider when choosing a scooter include:

- 2 wheels
- 3 wheels with two wheels at the front and seemingly handlebars that don't turn properly or
- Paw Patrol, Batman or Frozen branded scooter with one wheel at front and handlebars that turn like a 2 wheel scooter.

It's extremely confusing for parents to know which one to choose given the diverse options available.

The primary objective of any scooter is to facilitate physical development and enhance skill levels as the rider progresses.

To achieve this, children typically require three distinct scooter designs to develop proficient and safe scooting skills by the age of 8:

1) Training scooter (two wheels at the front, one at the back) - suitable for children aged 3 to 14 years old.

2) Transition scooter (first small wheel, two-wheel scooter) - designed for children aged 5 to 12 years old.

3) Final scooter (large wheel scooter for active travel and sports) - intended for children aged 8 years and older, as well as adults. Children will use this scooter to play Scoot Ball from 8 years old, through teenage years and into adulthood.

I will give further explanations of these scooters in the document.

Maintaining a strong single leg balance stance is important from an early age and is a key component of developing gross motor skills. The study from Bristol University and Rio de Janeiro in 2022 showed that individuals who were unable to balance on one leg for 10 seconds had a significantly increased risk of mortality within 6 years.

This highlights the importance of maintaining good balance and stability in reducing developing chronic conditions such as arthritis, joint pain, and lower back issues. Having a strong single-leg balance stance is crucial for overall physical health and well-being. A sport scooter can help improve single leg balance.



IF A CHILD CAN WALK AT 3YRS OLD THEY CAN SCOOT

RETIRE THE PUSH CHAIR ON 3RD BIRTHDAY AND START YOUR
Scoot Fit training for Scoot Ball.

Building a nation of fit & healthy children



VS



Formula 1 Scooter

- ✓ sedentary
- ✓ inactivity
- ✓ promotes low muscle growth
- ✓ bulky taking up space
- ✓ less face to face and talking time with parent
- ✓ Long periods in buggies should be avoided.

- ✓ Scooting burns 30% more calories than running or cycling
- ✓ 20mins walk in 8 mins
- ✓ 2 miles in 20mins
- ✓ Targets all the major muscle groups making your child stronger
- ✓ Have the edge and get your child
- ✓ Scoot Fit ready for school
- ✓ MUMS SHOULD SCOOT WITH THEIR CHILD, don't get left behind!

Scoot FIT

Contact info@scootfit
to bring Scoot Ball to your school

Training Scooter

A child's initial scooter is often referred to as a "Training scooter," "3 Wheel Scooter" or "Sport Scooter," featuring two wheels at the front and one at the back.

In scooting terms it's similar to how balance bikes are used before transitioning to a pedal bike.

These scooters function similarly to exercise machines, targeting all major muscle groups and providing the unique opportunity for children to balance on one leg for extended periods, thereby enhancing their body strength. Scooting is a non-bodyweight activity that promotes vigorous exercise outside of school, making it an ideal inclusion in active travel plans for nurseries and schools. This encourages children to engage in physical activity, helping to combat obesity and promote a healthy lifestyle.

Training scooters have been available since the early 2000s and have evolved in terms of design and affordability over the years. These scooters can be deceptive for new parents, who may find the lean-to-steer handlebar system confusing, as it does not turn like a two-wheeled scooter. Understanding the mechanics of these scooters can be challenging for parents.

Initially, children may struggle to maintain balance on a training scooter, as their standing leg may not be strong enough to support their body weight. This is a significant adjustment, as the standing leg accounts for 17% of the body weight and must now support the remaining 83%. However, with consistent practice, the standing leg will adapt and become more comfortable in bearing the body's mass.

Training scooters help develop muscle strength for children and adults with hyper mobility of the knee, 30% of adult population have this.

Training scooters are factory assembled ensuring high quality safety standards and a more streamlined user experience with a 50kg maximum weight limit.



2 Wheel Scooter (Transition Scooter)

The transition scooter serves as a child's initial experience with a two-wheel scooter and a crucial stepping stone towards their final scooter.

However, the developmental stages of Genu Valgum and Genu Recturvnum also known as knock-knees and bow legs, can make this transition period challenging and confusing, potentially leading to preventable accidents and injuries.

This is where scooting becomes more complex because there's more happening than meets the eye.

Our research with Swansea University points to a condition known as hyper mobility of the lower leg which can give a person two options in performing a single leg balance stance.

The first option involves standing on a straight leg, with the femur positioned top the tibia and the surrounding ligaments and knee joint bearing the body's weight.

The second option entails standing on a slightly bent knee, with the leg's four major muscle groups supporting the body's weight.

It is important to note that all children exhibit hypermobility of the knee until the age of 10, after which 70% will outgrow the condition, while 30% will retain it for life.

For this 30%, balancing on a scooter can be nearly impossible, resulting in falls and potential injuries.

It's for this reason that balance tests are required to ride a 2 wheel scooter in educational and public events with Scoot Fit and Scoot Ball so riders safety can be assured.

Our standard minimum entry for 2 wheels scooters are the JD Bug ms100, JD Bug ms130B, stunt scooters and comparable models with 50kg maximum user bodyweight limit.



Final Two Wheel Scooter

The ultimate scooter for a child is the Razor A5 Lux or a similar model with 200mm wheels, suitable for children aged 8 and older, as well as adults. This versatile scooter can be used throughout a child's primary and secondary school years, providing a reliable and enjoyable means of transportation and use for sport. They providing the perfect training tool to prepare children for e-scooters if legislation was to change. later in life and will reduce preventable accidents

Change to 'The A5's compact size, sleek design, impressive speed with swift acceleration are key factors why children want to ride this scooter.

For adults, these scooters are referred to as Safety scooters and Sport scooters and serve as an additional pre-training tool for riding e-scooters, ensuring proper balance and control before transitioning to shared e-scooters.

100kg maximum rider weight limit



Toy Scooters 20kg or Less

Scooters have been around since the early 1900's made from wood with 2 wheels and have had different design phases in over 120 years.



Today toy scooters are specifically aimed for educational settings and domestic home use. I'll discuss both scooters separately.

1935 saw the early production of tricycles and scooters inspired by how children play outside.

Early leaders in 3 wheel scooters were brands Tri-Ang, Bantel Cat and Judex dating back to the sixties.

Unfortunately this style of scooter was not as popular as bikes and roller skates and production stopped.



Fast forward to the late 1960s and early 1970s, a growing understanding of child development and the critical role of early childhood education led to significant advancements in the quality of childcare and education in Denmark.

New standards initially established in Denmark and Scandinavia designed with a focus on the developmental needs of children in the context of play and essential motor skill development with wheeled products.

These standards had a profound impact on early childhood education practices in Europe and worldwide.



Tricycle scooter
Development Pathway

Two Danish tricycle manufactures supported the new standards and due to early success of their tricycle product saw an opportunity to develop new wheeled products.

A new scooter was born, the heavy weight Tricycle scooter (Trike, Tri).

The first mega trend of scooters in educational settings started with tricycle scooters, also known as 'toy' 'tri' and 'trike' scooters.

Millions of trike scooters made with old-fashioned craftsmanship, weighing between 6kg-8kg, made from heavy gauge steel, started to be distributed to Early Years Educational settings across Europe and worldwide for 3 and 4 year olds to use in play.

Educational trike scooters retail between £150 - £300 each and are in wide circulation today.

The manufactures heralded the benefits of riding their scooter for improving balance and co-ordination.

'Mastering a scooter gives children a tremendous sense of achievement, first it was a tricycle, but now I have grown up I can balance. It gives heaps of confidence. Scooters are also ideal for improving the child's balance. The scooter challenges the children's sense of coordination and balance. After driving on a tricycle, it is a new world to scoot '.

Upon examining the ergonomics of tricycle scooters, it is evident that there is no direct correlation or evidence of any developmental motor skill development.

Instead, these scooters seem to impede play due to their faulty design. Tricycle manufacturers have not adequately considered the dimensions and size of each component of the scooter in relation to the biomechanics of children, resulting in design flaws that hinder and even regress the development of essential motor skills.

The most noticeable dimension flaws include the footplate height, footplate distance to the handlebar, rear twin wheel obstruction, and weight. These design issues force the body into unnatural and uncomfortable balancing positions, making the scooters unsafe and dangerous for young children to use.



Domestic Tricycles

The face and start of the scooter journey for the vast majority of new parents are the brightly coloured, branded licensed toy scooters called Tri-scooters and My First Scooter (Ozbuzz).

A tri-scooter has 1 wheel at the front and 2 at the back and are smaller models of the heavyweight tricycle scooters, with the exact same design flaws.

Tri-scooter is a generic scooter with no history or evidence of improving motor skill developmental.

Distributors secure licensing deals with popular children's entertainment franchises like Avengers, Frozen, Paw Patrol, Fireman Sam, Bluey, Frozen, Batman, Spiderman, Peppa Pig, Thomas and Friends and sell en-mass in Europe and worldwide.

A high percentage of parents worldwide will have purchased this scooter when deciding on their first scooter to get the benefits of scooting.

There is a strong link between children watching their favourite TV characters and the desire for products associated with those characters, including branded scooters.

Scooters featuring these beloved characters tap into the emotional connection children have with the franchises, increasing the appeal of their products and a strong desire to use them.

Tri scooters are sold as a budget option scooter with favourite tv characters offering a low cost to start scooting require self assembly before use.

The standards of scooters have evolved significantly over the years, with advancements in design, safety features, and ergonomics.

Tri scooters have not evolved and do not may not meet these elevated standards.

The overall quality and safety of scooters have improved to the point where tricycle scooters do not reflect the growing understanding of the importance of proper ergonomics and safety features required.

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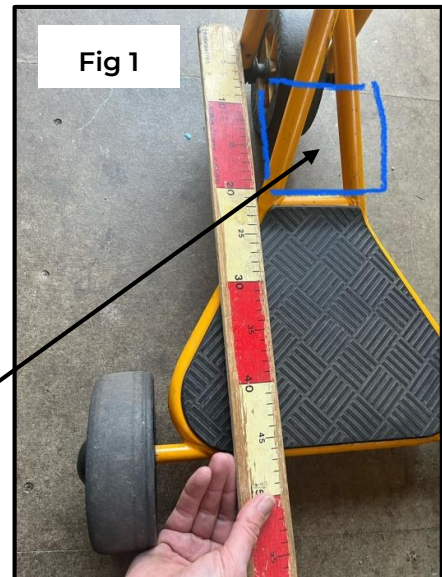


Tricycle Scooter Design Faults

Design Fault One

The handlebar stem positioned approximately 20cm away from the footplate (fig 1) creates an un-ergonomic style. The considerable distance between the handlebar and footplate forces children to adopt an unnatural 45-degree leg angle to maintain single-leg balance, which can hinder their overall gross motor skill development and impede their ability to ride the scooter safely.

Blue box 20cm space separating footplate from handlebar stem.



Design Fault Two

The footplate is positioned at 10cm height from the ground which is too high for children aged 3 years old and older to push ergonomically (fig 1a).

This further compounds the ability to balance safely and push the scooter with the correct technique to maintain balance and speed.

For reference, the ergonomic height of a training scooter for a 3 year old child is 5cm.



Design Fault Three

The design of the two rear wheels also poses an obstacle for children, as it prevents them from pushing the ground adjacent to their feet (fig 1b). As a result, children must push alongside the back wheels, further contributing to an uncomfortable and detrimental riding position.



The Result

Un-ergonomically designed scooters place children in awkward and uncomfortable balancing positions causing detrimental harm impacting the safety and enjoyment of play and scooting (Fig 1c).



45 degree angle knee bend makes balancing awkward and uncomfortable

Improper weight distribution across the body causing strain and aches on knee, hips and lower back.

Cannot balance and control their scooter safely.

Examples of Faulty Design



Poor technique



- Knee at distorted angle
- Shoulders curved and rounded forward
- Head and eyes looking down
- Pushing foot flat on the ground
- Pushing foot obstructed by twin wheel design
- Chest approx 30cm away from handlebars adding to complexities of balancing.
- Speed similar to walking, any faster risk of falling
- Undue strain on knees, hips, and lower back due to improper weight distribution. Un ergonomic nature forces the back to arch over in an uncomfortable position instead of remaining straight
- This can lead to discomfort and significantly reduced enjoyment which may discourage the child from engaging further in scooting.

Correct technique



- Shoulders back
- Head up looking ahead
- Chest close and in line with handlebars
- Bodyweight supported by strong single leg balance stance
- Strong pushing foot enables rapid speed and acceleration providing the fun and play factor with children scooting faster than they can run.
- Correct posture straight back, green arrow
- Poor posture red arrow



Knee is over bending with unequal weight distribution across standing leg



The footplate is too high from the ground for the toddler to push safely and uses scooter more of a climbing frame



Knee bent at awkward angle making it difficult to balance correctly

Distance between footplate and handlebar stem causes an unnatural position to balance on

Back wheel causes an obstruction for the pushing foot impacting momentum, speed, control and safety



Child in balancing pose to ride scooter. The standing is locked out straight placing extra strain on knee and not using leg muscles pivoting his face over the front of the scooter, vulnerable to facial injury if he falls.



Footplate is too high making it difficult for child to find comfortable standing position. Footplate not entwined with handlebar stem leaving 20cm gap that causes poor posture and balance.



Factory Assembled Scooters and Self Assembly Scooters



We can distinguish between toy scooters and training scooters whether they're factory assembled or require self-assembly.

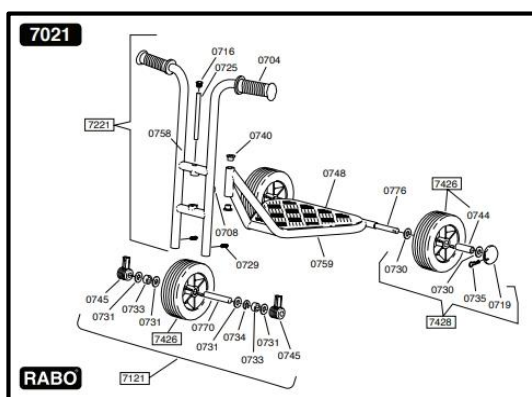
This is a key factor in performance, responsive steering, wheels, braking, weight distribution and balance.

Scooters assembled in a factory are designed for optimal performance, with features such as responsive steering, smooth-rolling wheels, and efficient braking systems. Toy scooters may not offer the same level of performance, potentially hindering the rider's ability to control the scooter effectively.

A well-designed scooter should have a responsive steering system that allows the rider to easily navigate turns and maintain control. Factory-assembled scooters often feature high-quality steering mechanisms, ensuring a smooth and enjoyable riding experience.

The wheels on a scooter play a crucial role in its overall performance. Factory-assembled scooters are typically equipped with high-quality wheels that roll smoothly and efficiently, reducing friction and providing a comfortable ride. Toy scooters may have lower-quality wheels that can hinder performance and increase the risk of accidents.

A reliable braking system is essential for maintaining control and safety while riding a scooter.



Factory-assembled scooters often come equipped with efficient brakes that are easy to use and provide consistent stopping power. Toy scooters may have less reliable brakes, which can compromise the rider's ability to stop quickly and safely.

In summary, factory-assembled scooters generally offer superior performance compared to toy scooters that require assembly, providing a safer and more enjoyable riding experience for children in a time friendly manner.

Training Scooters Ergonomic Design

Training scooters are ergonomically designed, featuring a handlebar stem on the footplate and a lean-to-steer turning system, suitable for children aged 2-14 years old. This ergonomic design enables children to adopt the correct single-leg balance stance, allowing them to safely and effectively control the scooter.

The ideal balance posture involves a slight bend in the knee, distributing weight evenly across the calf, thigh, hamstrings, and gluteus. The pushing foot should strike the ground adjacent to the standing leg, replicating the motion of running to generate speed and maintain momentum.



Conclusion

In conclusion, the two major design flaws of Tri scooters and My First scooter, such as the handlebar's distance from the footplate and the obstruction caused by the rear wheels, have a detrimental impact on a child's ability to ride safely and develop proper gross motor skills.

They present significant risks to children attempting to use these scooters for any purpose.

The uncomfortable and unnatural 45-degree leg angle required for balance can lead to poor gross motor skills development, muscle ache and high risk of falling to the ground.

The two back wheels of a tri scooter cause an obstruction to the child pushing or riding the scooter by preventing them from pushing the ground adjacent to their feet. As a result, children must push alongside the back wheels, which forces them to adopt an unnatural and uncomfortable riding position.

The inability to maintain balance on these scooters for extended periods can result in continuous one-legged pushing, leading to fatigue and frustration for the child. This can strain parent-child relationships, as parents may feel their efforts in assembling the scooter were wasted, while children may feel inadequate in their inability to ride it successfully. Consequently, parents often end up carrying these scooters, and the child walks part of the journey, creating a negative and arduous experience for all involved.

The lengthy and complex self-assembly process can contribute to frustration for both parents and children, as the excitement of riding the scooter may be overshadowed by the challenges of assembling it.

Due to the reasons stated above, these scooters are a barrier to children and parents who want to start their scooting journey. Due to their negative experience they are often put off from trying again with the correct scooter.

The negative experiences associated with the flawed design can serve as a significant barrier for children and parents who were expecting to begin their scooting journey. The discomfort, difficulty in balancing, and frustration caused by these scooters may deter them from attempting to use scooters again, even with more ergonomically designed options.

As a result, many children and parents may miss out on the potential benefits of scooting.



The widespread popularity and usage of these flawed scooters may be primarily due to their licensed branding, featuring superhero and fairytale characters that appeal to children and attract parents. This raises questions about the scooters' inherent appeal and desirability without the influence of such branding. It is possible that the scooters' designs may not be as attractive or appealing without the association with popular characters.

Recommendations

In light of this evidence I would recommend the following to create a harmonized and standardised pathway for scooting that is clear and transparent for all children and parents in Europe and the UK.

Removing toy scooters from the market would indeed help streamline the process of selecting the appropriate scooter for 3-year-olds, ensuring that they start off with a high-quality, safe, and enjoyable riding experience.

This could lead to an immediate positive impact on activity levels, obesity, enjoyment, active travel, and a more harmonized and structured scooting industry. By eliminating the confusion and potential risks associated with pre-1960 toy scooters, we can help promote the growth of active travel and encourage more children to develop a lifelong love for scooting.

These recommendation align with:

- EU Green Deal to reduce greenhouse gas emissions by at least 55% by 2030
- United Kingdom (UK) Transport Decarbonisation Plan: to create a net-zero transport system by 2050, with an emphasis on active travel. This includes a target to double cycling and increase walking by 2025
- London's Transport Strategy: Increase the share of trips made by walking, cycling, and public transport to 80% by 2041, with a focus on reducing reliance on private cars.

Actions

- All tricycle scooters to be withdrawn from the marketplace and educational settings
- 20kg classification removed
- 50kg 100kg weight category

