Challenges and Support Strategies in Paediatric Radiotherapy

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Paediatric Radiotherapy: Key Challenges

Fertility preservation

- Even **low to moderate doses** can affect gonadal function
- **Field optimisation**, **shielding**, and **IMRT/VMAT** techniques help reduce exposure
- **Multidisciplinary planning** may include fertility preservation procedures

Smaller margins – higher precision

- Typical **PTV margins**: 3–5 mm, sometimes less
- Requires **high positional accuracy** and **daily verification (IGRT)**
- **Motion management** (e.g. 4D CT, respiratory gating) when needed

Anaesthesia and immobilisation

- **Anaesthesia often required** to ensure full immobilisation
- Especially for **children under 3** or those unable to cooperate
- Used for **immobility**, not pain

Rare cases – limited routine

- Paediatric tumours are **rare**, few cases per centre
- Harder to gain **routine clinical experience**
- Treatments handled by **specialised teams**
- Reliance on **guidelines and international collaboration**

Psychological Support

- Radiotherapy can be **intimidating** for children
- **Masks, noises, and immobilisation** often cause fear
- Requires **trust, time, and empathy**
- Support for **both children and parents**
- **Mission of Brave** program

Mission of Brave Program

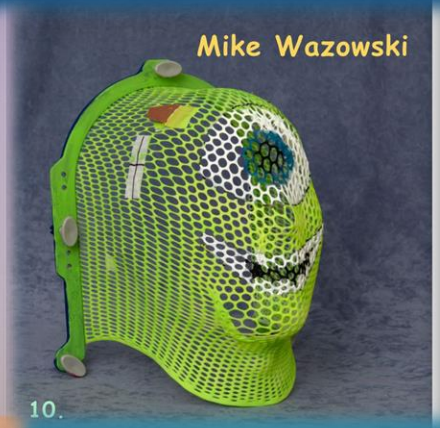
- A unique initiative of the **National Institute of Oncology, Budapest**
- Turns radiotherapy into a **positive, empowering "mission"**
- Each child receives a **Mission Booklet** and a **medal** after completion
- **LEGO linear accelerator** and **light painting** event at the end
- **Mask painting** for head & neck cases – chosen by the child, painted by staff
- Entirely **volunteer-driven**, led by **Dr. Georgina Fröhlich**

Lego Linac

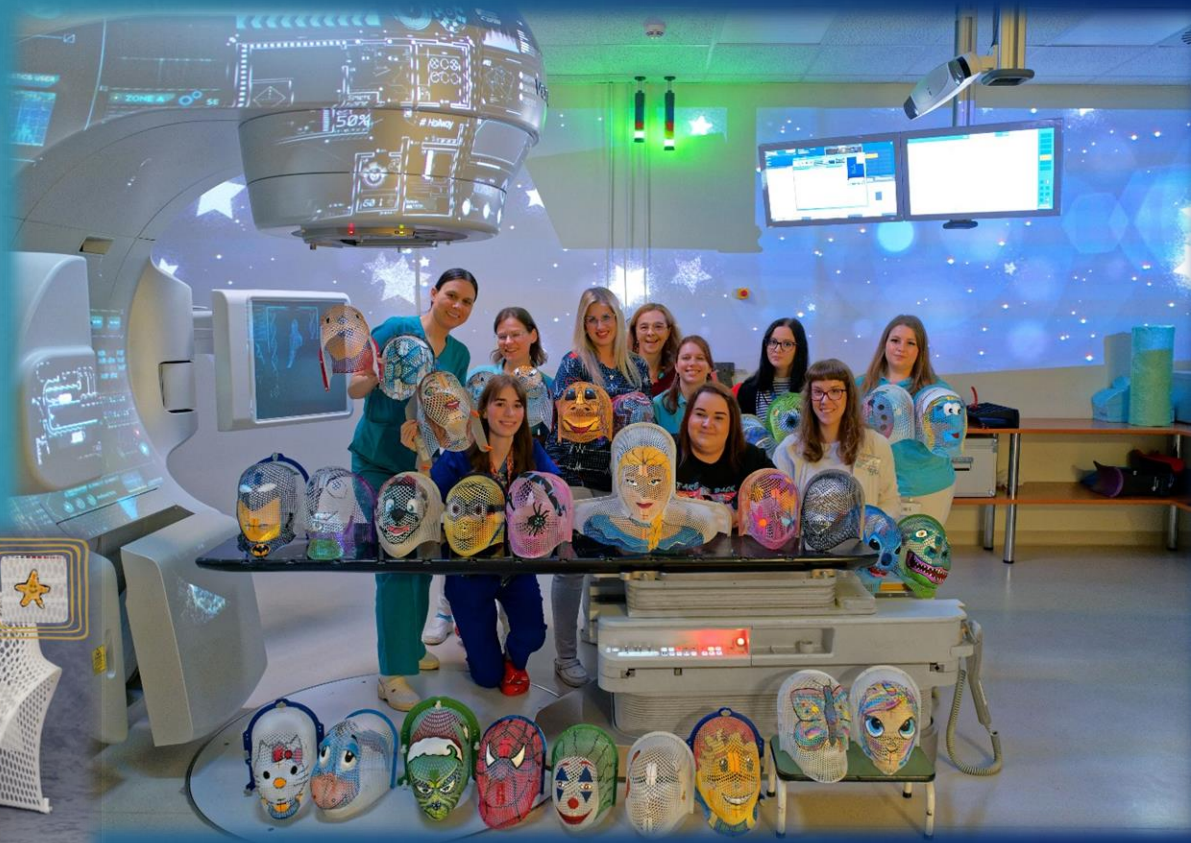

3-14
LINEÁRIS GYORSÍTÓ


Bátor küldetése
3-14
LINEÁRIS GYORSÍTÓ
1
2
3
4


BÁTOR
KÜLDETÉSE
Mesés
Maszkok
Vallejo
GAME COLOR


Mike Wazowski
10.


Grincs
11.



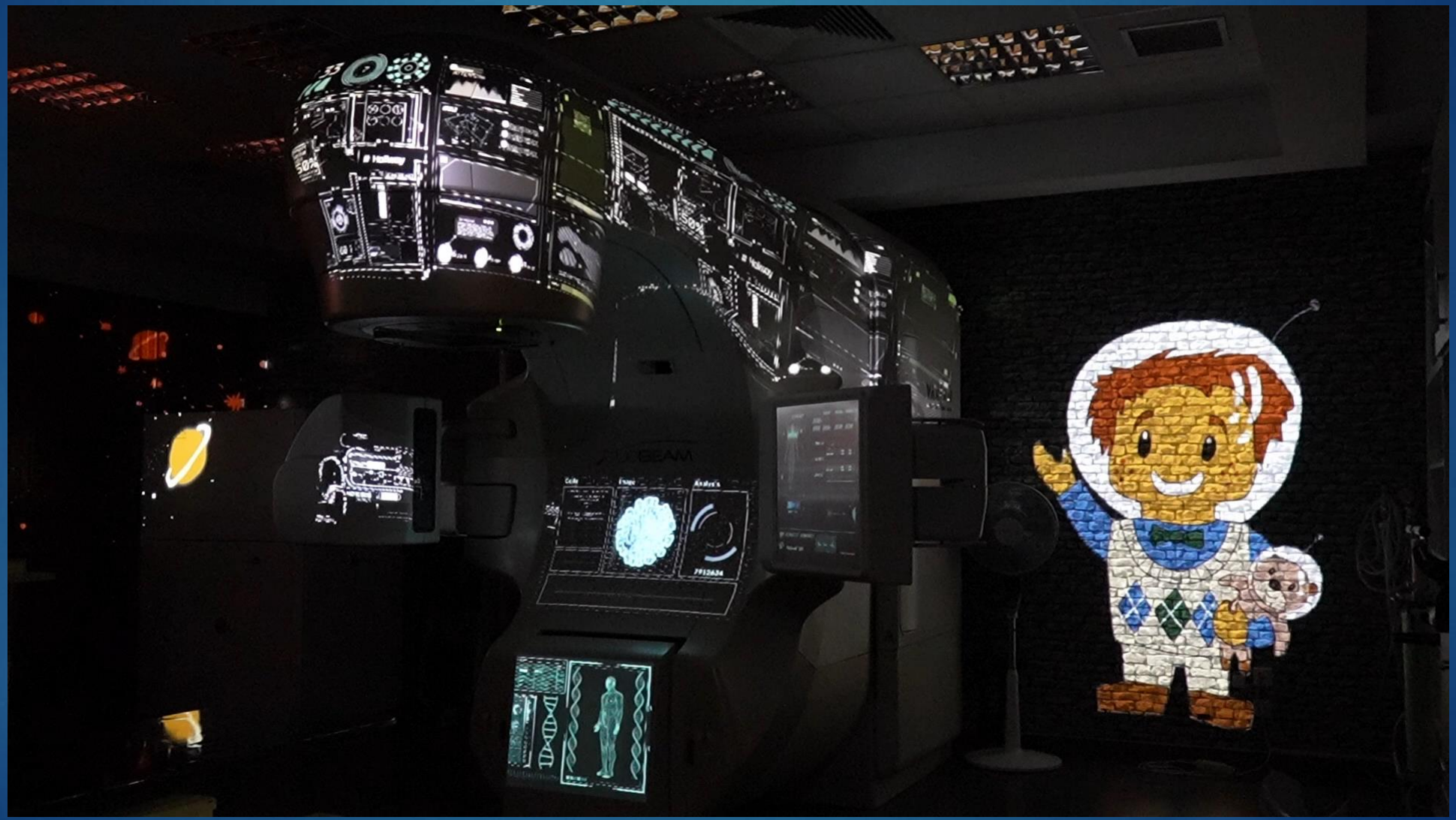

Triceratopsz
8.

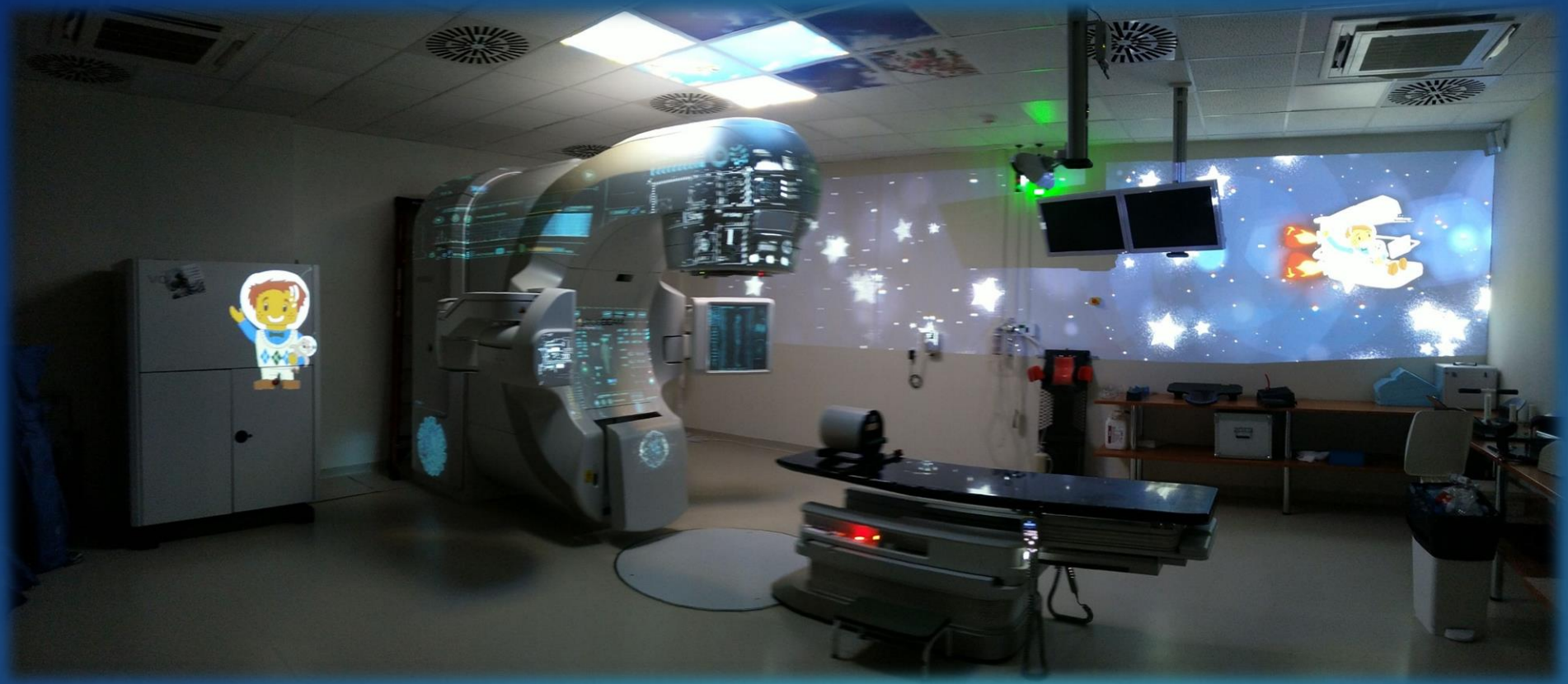

T-rex
9.

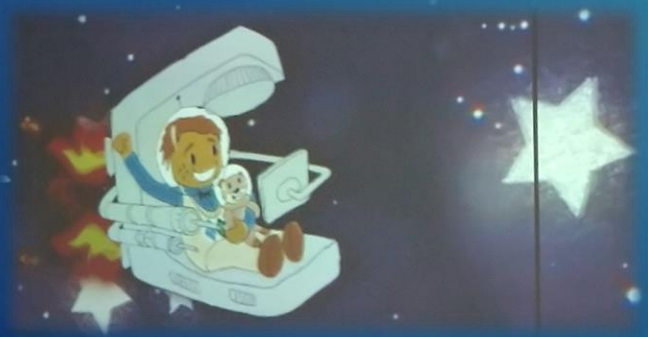

Stitch
6.


Némó
7.

Light painting








TUOBEAM
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VARIAN