# E-LEARNING TO IMPROVE PAEDIATRIC PARENTERAL NUTRITION PRESCRIPTION ? A PILOT STUDY IN TWO UNIVERSITY'S HOSPITALS.

Dre. L-M. Petit[1], Dre. P. Le Pape[2], Dre N. Bajwa[3], Dre V. Marchand[4], Dre S. Delestras[1], Dre C. Fonzo-Christe[1], Dr P. Bonnabry [2,5], Pre VA McLin[1].

[1]Geneva University Hospitals, Unit for gastroenterology, hepatology and nutrition, Geneva, Switzerland, [2]Geneva University Hospitals, Pharmacy, Geneva, Switzerland, [3] Geneva university Hospital, Department of Pediatrics, Geneva, Switzerland.[4] Montreal University Hospital Sainte Justine, Montreal Canada [5]University of Geneva- University of Lausanne, School of Pharmaceuticals Sciences, Geneva, Switzerland.

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## Objective

To assess and compare the impact of an **E-learning module, as computer based learning** on the ability of physicians to manage theoretical clinical cases focusing on **prescription of paediatric parenteral nutrition.**

## Background

- Education and training are strongly needed to improve prescription of paediatric parenteral nutrition (PN).
- Prescription of paediatric PN may be performed by physicians or clinical pharmacists in university hospitals
- Differences in knowledge of prescribing and non-prescribing physicians may be expected.
- Lack of knowledge in physicians may lead to delayed prescription or error in IV administration of caloric needs.

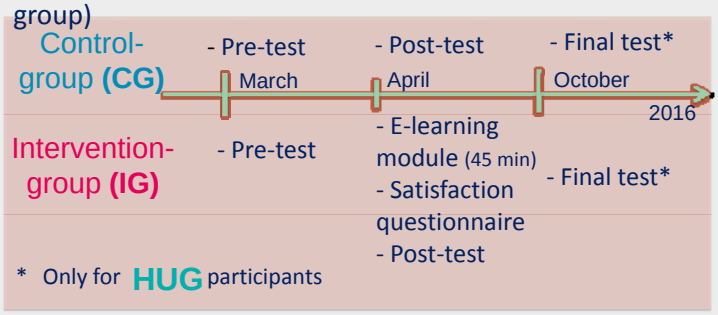
## Methods

- Two paediatric university hospitals : in - training physicians

**HUG**
Geneva - Switzerland
Participants : Prescribing physicians

**CHUSJ**
Sainte-Justine - Canada
Participants : Non-prescribing physicians

- Study design : randomized controlled study in each hospital (Intervention group (E-learning) vs Control-group)




- Pre-, post-test and final * included 3 clinical cases (score range 0 to 250 points) :
  - ✓ Case one : to determine energy intakes
  - ✓ Case two : to perform appropriate monitoring
  - ✓ Case three : to find errors on a nutrition parenteral prescription
- Outcome: scores' differences between tests in both groups (globally and in each hospital)

## Global satisfaction


-100% (n=32) estimated that the E-learning module met their needs

- 100% (n=32) would recommend it to their colleagues.

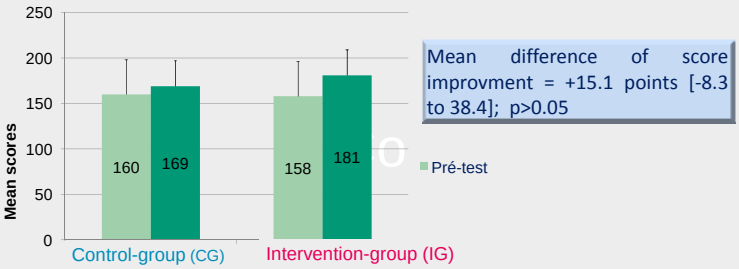
## Results

- 65 physicians in training : 36 **HUG** directly involved in prescribing PN

| | HUG | CHUSJ |
|---|---|---|
| Number of physicians | 36 | 29 |
| Number of physicians in each group | (CG =18) (IG=18) (IG=18) | (CG=15) (IG=14) (IG=14) |
| Mean years of experience (± SD) | 4.0 ± 2.8 | 3.1 ± 2.6 |
| Pre-test scores (± SD) | 180 ± 29 | p<0.001 133 ± 24 |

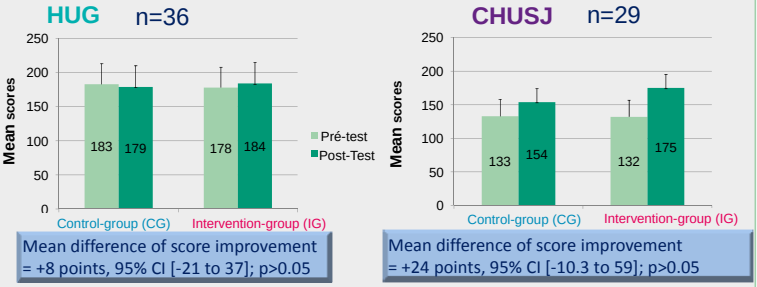
→ **Initial knowledge scores significantly higher in HUG**

- Scores' difference between pre- and post-test




→ **No significant E-learning impact observed but no effect of years of experience on results.**

- Scores' difference between pre- and post-test in each hospital




Final test (6 months later) for HUG participants showed persistence of knowledge without significant improvement compared to pre test results in both HUG groups.

## Conclusion

- **Elearning module and its evaluation did not show significant improvement in knowledge of in - training physicians.**
- **However training and teaching parenteral nutrition bring high level of satisfaction and score improvement in intervention group.**
- **Further study is needed to assess the long term education need to obtain and then to maintain significant improvement in knowledge of pediatric in - training physicians.**