



# Your winning game to recovery

## REAplan®

---

Robot-assisted upper limb rehabilitation, enhancing functional outcomes and return to social participation

REApplan® is an end effector robot for intensive, auto-adaptive upper limb rehabilitation, with inbuilt therapeutic gamification to increase motivation and optimise rehabilitation outcomes.



- **Intensive therapy** with up to 1,000 movements per session
- The end effector structure allows for many **functional tasks**
- Intuitive, user-friendly, and personalized graphical interface to increase patient **autonomy** and **motivation**
- **Therapeutic gamification** to reinforce patient motivation
  - Wide range of serious games for **patients of all ages**
  - **Therapy tailored** to the motor performance and recovery stage of each patient
- Quick to adjust to the patient 's physique and therefore **easy integration** into clinical routine
- Several evaluation applications providing **objective and comparable data**, grouped in patient performance reports
- **Return on investment** between 2 and 2.5 years, based on real-life hospital cases

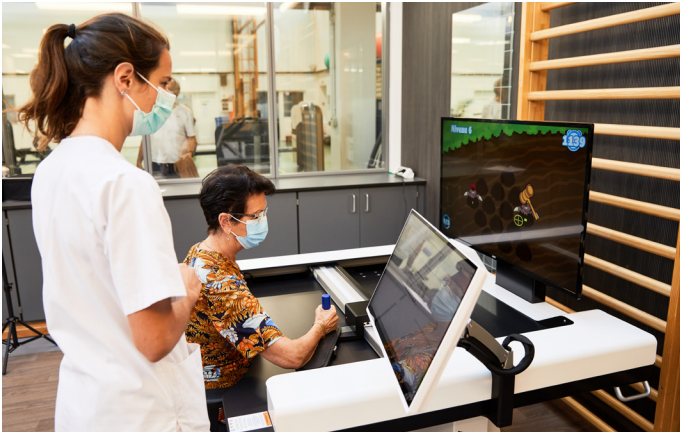
The REAlab software enables **real-time auto-adaptive movement assistance** ranging from passive to resisted active. This allows a very early start to upper limb rehabilitation.

**Passive:** the robot performs the movement.

**Active assisted:** the robot helps the patient perform the movement when needed.

**Active:** the patient performs the movement all by himself, the movement can also be performed against resistance.





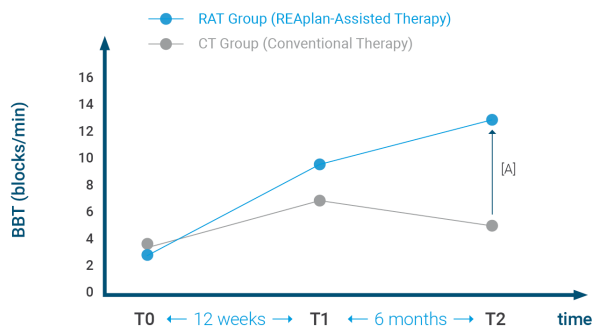
- **Large 43 inch (950 x 530 mm) immersive screen** providing audiovisual feedback to the patient
  - Display scale 1:1 with robot arm movements
- **Dedicated screen for the therapist** to configure the device and supervise the therapy
- Large horizontal plane that allows mobilization up to **full extension of the upper limbs** for re-appropriation of large amplitude movements
  - Default workspace is a rectangle of 400 mm wide by 250 mm deep
  - Can be extended to a rectangle of 800 mm wide by 500 mm deep
- The **distal end effector** allows for a safe interaction with the patient during upper limb rehabilitation
  - Mobilisation of the patient's upper limb at a speed of up to 100 mm/s and at a force of up to 50 N by default
  - Force can be manually increased to 150 N
- Robust work area that is **electrically height adjustable** to suit the position of each patient, whether standing, sitting or in a wheelchair
  - Allows the worktop to be positioned between 700 mm and 1,050 mm from the floor



## Robot-assisted therapy with REAplan® delivers clinically proven superior results compared to standard therapy:

- Increased motor control with a prolonged effect up to 6 months after therapy
- Increased gross manual dexterity with a prolonged effect up to 6 months after therapy and transfer to improved activities of daily living
- Improved social participation

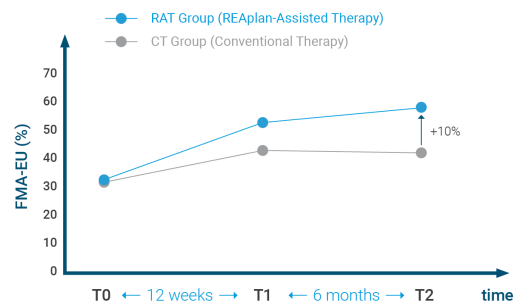
### Gross Manual Dexterity



Compared to conventional therapy (CT), RAT:

[A] Increased gross manual dexterity by +150%, with a continued increase, even after therapy stopped at 12 weeks

### Upper Limb Motor Control



Source : Dehem S. et al. 2019 UC Louvain

Axinesis offers intensive and functional neurorehabilitation solutions that cover the full patient care pathway to facilitate faster recovery and better patient outcomes while reducing healthcare costs. Discover our full range at [www.axinesis.com](http://www.axinesis.com).

Robot-assisted rehabilitation with REAplan® is suitable for a wide range of indications including stroke, traumatic brain injury, spinal cord injury and cerebral palsy.



Avenue Sabin 3  
B - 1300 Wavre  
[www.axinesis.com](http://www.axinesis.com)

**AXINESIS**  
ADVANCING REHABILITATION