

# Satellite® Multi-Sensory Nursing Trolley

Evidenced-Based Snoezelen Therapy for  
Psychiatric & Neurobehavioral Care



# The Psychiatric Care Challenge

Patients in psychiatric, dementia, and long-term care settings commonly experience **elevated stress, anxiety, agitation, and emotional dysregulation**, which significantly impact quality of life, safety, and care delivery.

In a clinical study of adults with intellectual disabilities, baseline assessments prior to multisensory therapy showed high psychological and physiological stress indicators, including elevated anger–hostility, tension–anxiety, and fatigue scores, reflecting chronic emotional and physiological strain.<sup>1</sup>



## Clinical Baseline Stress Levels

High anger-hostility and physiological stress indicators prior to multisensory therapy



## Evidence Across 62 Studies

**61.3%** of reported effects from Snoezelen interventions related to mental health improvements<sup>2</sup>

Institutional environments further contribute to:

- Sensory deprivation or poorly regulated sensory input
- Reduced opportunities for emotional self-regulation
- Increased behavioral disturbances and agitation
- Greater dependence on pharmacological management

A systematic review of 62 Snoezelen studies involving individuals with intellectual disability and dementia found that **over 60% of reported outcomes were related to mental health improvements**, particularly in mood stabilization and reduction of challenging behaviors, highlighting the strong link between sensory environments and emotional well-being.<sup>2</sup>

Despite this, access to structured, scalable non-pharmacological sensory interventions remains limited in many care facilities due to:

- Space constraints for dedicated sensory rooms
- Staffing limitations
- Inconsistent therapy delivery models

There is a clear need for **clinically supported, scalable multisensory interventions** that can be delivered directly at the point of care to support emotional regulation and reduce stress-related behaviors.

<sup>1</sup> Cintulova, L. L., Rottermund, J., & Budayova, Z. (2024). Analysis of Psychological and Physiological Responses to Snoezelen Multisensory Stimulation. *Journal of Neuroscience and Neurological Disorders*, 8(2), 115–125.

<sup>2</sup> Testerink, G., ten Brug, A., Douma, G., & van der Putten, A. (2023). Snoezelen in people with intellectual disability or dementia: A systematic review. *International Journal of Nursing Studies Advances*, 5, 100152.

# What is Snoezelen Therapy

Snoezelen therapy is a **structured multisensory intervention that delivers controlled** visual, auditory, tactile, and olfactory stimulation within a safe and calming environment. The approach supports sensory integration, emotional regulation, and autonomic nervous system balance.



## Visual Stimulation

High-definition projection, color changing **fiber optic lighting**, and soothing bubble tubes create immersive visual experiences.<sup>1</sup>



## Auditory Stimulation

Therapeutic music can trigger dopamine and endorphin release promoting relaxation and emotional well-being.<sup>2</sup>



## Olfactory Stimulation

Essential oils such as lavender can modulate autonomic activity, reducing cortisol levels and physiological stress.<sup>1</sup>



## Tactile Stimulation

Tactile items offer calming repetitive sensory engagement that supports focus and overall relaxation.<sup>1</sup>

## Key Therapeutic Mechanisms

- ✓ Regulation of physiological stress systems
- ✓ Emotional calming and behavioral stabilization
- ✓ Sensory integration and engagement
- ✓ Reduction of autonomic hyperarousal



Neurophysiological research demonstrates that multisensory stimulation influences the hypothalamic-pituitary-adrenal (HPA) axis and autonomic nervous system, helping reduce prolonged stress activation.<sup>3</sup>



A 2024 clinical study evaluating two months of regular Snoezelen therapy demonstrated statistically significant reductions in anger-hostility and physiological stress markers ( $p=0.047$ ), indicating measurable improvements.<sup>1</sup>

<sup>1</sup> Saeedpour-Parizi, T., et al. (2020). Neuroendocrine and Autonomic Nervous System Response to Aromatherapy: A Systematic Review. *Complementary Therapies in Medicine*, 53, 102577.

<sup>2</sup> Cintulova, L. L., Rottermund, J., & Budayova, Z. (2024). Analysis of Psychological and Physiological Responses to Snoezelen Multisensory Stimulation. *Journal of Neuroscience and Neurological Disorders*, 8(2), 115–125.

# Effective Clinical Outcomes

Clinical outcomes from Snoezelen therapy demonstrate statistically significant improvement in emotional regulation, anxiety, and fatigue.



## Emotional Regulation & Aggression Reduction

Significant reduction in anger-hostility indicators<sup>1</sup>

**40.8%**

- Improved impulse control
- Lowered physiological stress



## Fatigue Reduction & Mental Energy Restoration

**33.1%** Meaningful reduction in fatigue scores<sup>2</sup>

- Enhanced motivation
- Increased mental clarity and energy

## Evidence at Scale

A 2023 systematic review covering 62 clinical studies found that:

- ✓ **61.3%** of reported effects were related to mental health outcomes<sup>2</sup>
- ✓ Improvements were observed in mood, behavioral regulation, relaxation, and adaptive functioning
- ✓ Benefits were consistent across **intellectual disability and dementia** populations

Clinical note: Snoezelen therapy is a complementary intervention designed to support emotional regulation and behavioral stabilization. It is not intended to replace psychiatric or medical treatment.

<sup>1</sup> Cintulova, L. L., Rottermund, J., & Budayova, Z. (2024). Analysis of Psychological and Physiological Responses to Snoezelen Multisensory Stimulation. *Journal of Neuroscience and Neurological Disorders*, 8(2), 115–125.

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# Satellite® Multisensory Care: Translating Evidence into Practice

The Satellite® Multi-Sensory Nursing Trolley enables Snoezelen therapy without the need for a dedicated sensory room, allowing therapy to be delivered directly at the bedside or within clinical environments.



## Portable Point-of-Care Access

Deploy quickly and flexibly at bedside, day rooms, or therapy spaces



## Targeted Therapy Delivery

Deliver on-demand sessions tailored to individual patient needs



## Trackable Outcomes & Reporting

Measure and document clinical impact with ease

## Multisensory Integration Aligned with Clinical Evidence

### Video Stimulation

- Video projection
- Color changing fiber optic cables
- Water bubble panel



### Auditory Stimulation

- Integrated speakers
- Therapeutic music playback



### Olfactory Stimulation

- Essential oil diffuser with multiple therapeutic fragrances



### Tactile Stimulation

- Sensory accessories including tactile balls, vibration cushions, textured mats



## Multisensory Clinical Applications



### Psychiatric & Behavioral Wards

- Agitation management
- Anxiety regulation
- Emotional stabilization



### Dementia & Geriatric Care

- Behavioral calming
- Sensory engagement
- Non-drug intervention



### Rehabilitation & Long-Term Care

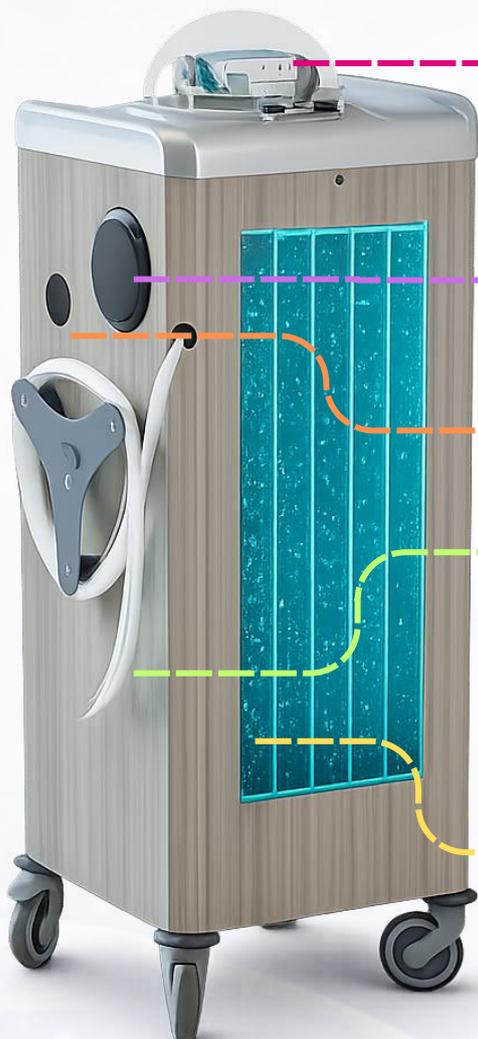
- Cognitive stimulation
- Fatigue reduction
- Patient engagement



### Acute & Community Care Settings

- Bedside therapy deployment
- Flexible care delivery

# Satellite® - Multi-Sensory Nursing Trolley



## Adjustable projector

For video broadcasting on wall or ceiling

## Audio speakers

High fidelity music output

## Essential oil diffuser:

6 different fragrances

## Color changing fiber optic cables

located at an optimal height for therapy in bed or chair

## Water bubble panel

big and captivating flow of lights and bubbles

## Storage drawers of small materials:

light balls, hedgehog balls; heating pad



Six predefined care programs and one customizable program support standardized therapy delivery:

- Stimulating
- Balneo
- Before Meal
- Soothing
- Relaxing
- Night
- Free atmosphere (fully customized program)



# Supporting Multisensory Engagement & Therapeutic Outcomes

The Satellite® Multi-Sensory Trolley is complemented by a curated range of sensory accessories designed to enhance tactile stimulation, proprioceptive feedback, relaxation, and emotional regulation.

## Sensory Engagement Accessories

### Textured Sensory Balls



- Provides tactile and proprioceptive stimulation
- Supports body awareness and sensory grounding
- Encourages active hand engagement

#### Clinical Use:

Emotional regulation, sensory modulation, engagement therapy, light exercise

### Kalimba with 9 Blades



- Provides gentle melodic auditory stimulation
- Encourages fine motor coordination and active engagement
- Supports calming and emotional expression

#### Clinical Use:

Relaxation therapy, mood regulation, cognitive engagement, sensory activation

## Calming & Comfort Accessories

### Light Up Eggs



- Provides gentle visual stimulation through slow colour transitions
- Encourages tactile and visual sensory exploration
- Supports calming and attention-focusing activities

#### Clinical Use:

Relaxation therapy, anxiety reduction, sensory engagement, night or low-stimulation programmes

### Sensory Blanket & Vibrating Pillow



- Provides soft tactile stimulation and comfort through varied textures
- Supports relaxation and calming of over-stimulated patients
- Offers optional gentle vibration with adjustable intensity

#### Clinical Use:

Anxiety reduction, sensory modulation, emotional comfort, night and rest programmes

### Linseed Weighted Mat



- Provides deep pressure stimulation using natural flax seed filling
- Can be warmed or cooled for thermal comfort therapy
- Removable cover supports hygiene and easy maintenance

#### Clinical Use:

Anxiety reduction, sensory calming, muscle relaxation, comfort therapy



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