

# Galileo. Dramatic patient improvements. Faster results.



## Kids' Perspective Physical Therapy

16615 Lark Ave., Suite 101 Los Gatos, CA 95120

**Training Product:** Med S Platform

**Galileo Training Since:** March 2016



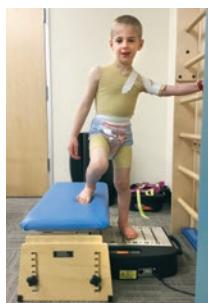
### The Facility

Kids' Perspective Physical Therapy (KPPT) is a therapist-owned outpatient pediatric clinic specializing in physical and occupational therapy. The clinic's therapists, with their combined 50+ years of experience, provide treatments based on current research and advanced training, enabling them to give families the most up-to-date information while creating a fun, caring environment to help children succeed. To ensure excellent patient care, KPPT offers state-of-the-art equipment including whole body vibration with the Galileo Med S Platform System, body weight supported treadmill training with the AlterG Anti-Gravity Treadmill and Neuromuscular Electrical Stimulation.

### The User Advantages

The combination of these advanced machines excites Kristine Nakaji, PT, MPT, PCS – one of the owners of KPPT, specializing in pediatric posture, movement and function.

"With the Galileo, we have achieved success in decreasing fixing patterns of tone and improving range of motion, sensation, proprioception, balance and strength in a relatively short amount of time," Kristine says.



"During the same treatment, we transition from Galileo to the AlterG Anti-Gravity treadmill to allow children to utilize these improvements for an improved gait pattern and endurance in ambulation. By adding functional electrical stimulation to either or both of these treatments, we can optimize the timing of the muscles to further the children's success in neural changes, motor control and, ultimately, independence."

Kristine appreciates the extreme variability of the Galileo treatment. "Patients can use varied positions to meet their specific needs, from sitting and half-kneeling to standing, single leg standing and plank holds to name but a few."

"The Galileo has benefits for infants all the way up

to young adults," she adds. "I use the whole body vibration with almost every patient I see."

One of the most dramatic changes Kristine has seen has been the improvement in range of motion to avoid the need for lengthening surgery.

"I work with an 8-year-old boy with Cerebral Palsy, Left Hemiparesis, GMFCS Level I," Kristine explains.

"He is extremely active but was not always able to follow through with wearing his



orthotic. As a result of this and growth, over time he developed tightness in the gastrocnemius so that his dorsiflexion range of motion with knee extension was -28/-15 degrees for R1 first catch/R2 end range. The family did not want to use electrical stimulation nor did they want serial casting. A new orthotic was needed as the old one no longer accommodated his range of motion and growth, and I was worried a lengthening surgery might be the only option. But then I heard about the Galileo. I purchased a Med S platform for the clinic and we began an intensive 4-5 day-a-week stretching and strengthening Galileo program followed by ambulation in the AlterG treadmill. Over a period of 6 weeks, not only did his dorsiflexion range with knee extension improve to 0/-2 degrees for R1/R2, we avoided the need for surgery. And for the first time he had active toe extension in his left foot!"

Therapists at KPPT use the Galileo to treat children with many different diagnoses, including: Cerebral Palsy, stroke hemiparesis, low tone, coordination and balance disorders, idiopathic toe-walking, Sensory Spectrum Disorders, developmental delays, torticollis and musculoskeletal injuries. As Kristine confidently states, "Any treatment strategy that can be done on the ground can be done on the Galileo with improved results."

*"Galileo whole body vibration has changed the way I treat my patients. I can make greater changes in less time with less physical demand on my body. This allows me to work with more children and have an even larger impact on their function!"*

**Kristine Nakaji**

PT, MPT, PCS



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## Operational Advantages

The Galileo delivers more than patient improvements, offering a variety of practical benefits including being easy to use, setting up quickly and working well with other equipment.

"I can place a descending large roll on the platform to work pelvic tilts in a sitting position or use a large ball to work on trunk control," Kristine notes. "I've even had patients with drooling issues hold a popsicle stick between their lips while standing on the Galileo. This helps improve the tone and strength of the oral muscles and has helped decrease – and even

stop – drooling."

The demand on the therapist's body is also less. Kristine explains: "I find I can use better body mechanics and lighter facilitation to achieve the activation I want. I can see more children each day because I have more energy!"

The Galileo treatment runs in 3-minute



sessions and is concentrated for dramatic results. So much can be done in such a small amount of time, the rest of the treatment session can focus on other areas of function.

"We can tackle warm-up, stretching for flexibility and improved range of motion and strengthening along with the other benefits within 15-30 minutes. The rest of the treatment session can be used for activities such as gait, stairs and jumping," Kristine says.

"We are able to get so much more done in our treatment sessions now, the children are showing greater improvements in less time."

### Patient 1:

**Age:** 5, boy

**Dx:** Polymicrogyria, Cerebral Palsy L Hemiparesis, Dystonia, Ataxic Gait, Seizure Disorder, GMFCS Level II

**Galileo Training:** Over a 4 month period, Galileo was utilized twice a week. Positions of stance with knee flexion with popsicle stick lip closure (18 Hz), modified left single leg stance (25 Hz) and a choice of abdominals, ½ kneel to stand transitions or standing dynamic knee control (25 Hz) were completed for 3 minute sessions. In all standing positions, foot placement was at #1 and for seating positions #0 was used. Treatment was followed by use of the AlterG Anti-Gravity Treadmill and NMES was used during the treatment.

**Results:** After 4 months, left knee extension and heel strike when on the AlterG improved from 2 of every 10 steps to being able to achieve 10 steps consecutively. Walking width over a 30 foot distance improved from 3 feet to 2 feet in 3 of 4 trials. Standardized testing of the 6 Minute Walk Test demonstrated improvement in distance of 175 meters and the patient decreased his falls and wall touches from 1 fall and 13 wall touches to 0 falls and 3 wall touches. Parents report their child is much more stable, able to walk without standby assistance and can independently go up and down stairs using a rail. Drooling stopped and verbal language dramatically improved.

### Patient 2:

**AGE:** 15, girl

**Dx:** Complex Regional Pain Syndrome (CRPS) following multiple left ankle sprains, Conversion Disorder

**Galileo Treatment:** Over 14 months, this patient utilized the Galileo typically 3-4 times per week for desensitization, range of motion and strengthening. Positions included stance (18 Hz), squat (25 Hz), heel raises (25 Hz) and single leg stance (25 Hz). In all positions the foot placement was on #1. As the patient progressed, the wobble function was used to increase the desensitization process. In CRPS, desensitization of the affected area is extremely important but time consuming. For this patient, the area was large and moved to include most of her body. The Galileo was instrumental in providing this desensitization in an efficient manner, effectively covering the whole body in just minutes. Treatment was followed with standing or ambulation in the AlterG Treadmill. TENS electrical stimulation was used for pain control.

**Results:** This patient improved from having no sensory tolerance (pain from the air touching skin) to having good sensory tolerance and being able to tolerate touch and wearing socks, shoes and sweatpants. Her mobility improved from being non-weight bearing to being able to ambulate independently without an assistive device, hike up hills and jog.

### Patient 3:

**AGE:** 8, boy

**Dx:** Cerebral Palsy, Spastic Tetraparesis

**Galileo Training:** This patient has been treated for 3 months. His program is ongoing and consists of a frequency of twice a week with a physical therapist and a simplified independent program with the parents twice a week. All sessions use the Galileo followed by the AlterG Treadmill. The family program consists of the platform being put into a slant to allow for some plantarflexion while the patient completes the positions of stance (18 Hz), squat (24 Hz) and sitting hip abduction (18 Hz). The program with the physical therapist is more complex and is modified to patient response. It has included ½ kneel hold, ½ kneel <> standing transitions, trunk rotation and sit<>stand transitions.

**Results:** This patient has decreased fixing and tone following treatment and his hip adductor flexibility has improved. His mobility has also improved from needing standby assistance to supervised assistance when walking with bilateral 3-prong canes. Initially, he needed minimum assistance to take a step with the physical therapists and is currently able to take up to 15 steps with CGA. He tolerates increased time ambulating forward and backward in the AlterG Treadmill. He is currently being progressed to ambulation with Lofstrand crutches. In 3 months, he will be measured for differences in the standardized testing of Timed Up & Go, 6 Minute Walk Test and Gait Velocity.

*"I find Galileo's mechano-stimulation to be most effective when used a minimum of three times per week, especially when working on improving range of motion. It seems that the more it's used, the faster and more dramatic the results."* **Kristine Nakaji**, PT, MPT, PCS