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Brain and Sensory Foundations® Second Level

13 Month-Old Sees Great Improvement in Torticollis, Headrighting, and Parachute Reflex

Case Study by Melody Edwards, PT
upon completion of the Brain and Sensory Foundations, Second Level (Part 2) Course

Tate, a thirteen-month old male child was initially seen on 5/15/17 with diagnoses of torticollis and plagiocephaly. He was born full term weighing 8 pounds 3 ounces. His family noticed his torticollis at 3 months of age. He had been receiving "traditional" stretching exercises from a private Physical Therapist weekly from 4 months of age to thirteen months of age. He had been fitted with a helmet at 8 months of age to address his plagiocephaly. The use of the helmet had been discontinued during the past week by the orthotist due to the skull sutures having been assessed to be closed. Developmentally, his parents report that he sat alone in his sixth month, crept reciprocally at 8 ½ months and pulled to standing & started cruising around 12 months of age. He sleeps on his back with his head turned to his right.

His neck and shoulder girdle have decreased range of motion. Passively, his shoulders can be flexed comfortably to 130° out of the expected 180° (130°/180°); abducted to 100°/180°. Actively he rotates his head 45°/90° to the left and 80°/90° to the right under ideal circumstances that included fixation of his trunk. Tate tends to turn his body when he looks at something out of the mid-range of his vision. Passive lateral flexion of the head to the left is full and to the right it is 50% of the expected range. Additionally, his passive trunk rotation is stiff and about 75% of the expected range. His scapulae are held in a position of protraction. Tate holds his head in at least 30° of left lateral tilt with at least 5° of right rotation. The right rear portion of his skull is moderately flattened.

Tate's reflexes are globally delayed in their development. His headrighting is absent with a body tilt to the left and barely emerging with a body tilt to the right. This postural reflex should have been fully developed no later than two months of age. **His Parachute reaction of his upper extremities is absent.** This should have fully developed no later than 12 months of age.

Before	After
Diagnosis of torticollis that was not improving by 13 months of age, despite weekly PT for 9 months	Prognosis is excellent for full resolution of torticollis, despite starting at the late stage of 13 months
Headrighting was absent	Headrighting is present and improving in response time and consistency
Turned body to look at something to the side	Turns head instead of body when looking to the side
Parachute reaction was absent	Parachute reaction is crisp and consistent
Did not use left hand at all when moving in/out of sitting position	Using left hand 40% of the time to get in/out of sitting position
Could rotate head only 45° to the left and 80° to the right	Full active rotation of head

Tate is able to go from sitting to creeping by putting his right hand down and moving to his right side. He does not put his left hand down in sitting nor move to his left side when getting out of sitting.

Intervention provided during the initial visit:

- Kinesiology tape to promote scapular retraction, shoulder depression, and midline head alignment.
- Passive Salamander Rhythmic Movement (from the Brain and Sensory Foundations, Second Level course)
- Supine, right lateral head flexion during bottle feedings to promote growth on internal neck musculature on the shortened left side
- Dad to "fly" Tate around in prone position with attention to keeping his head in midline to promote automatic midline head alignment
- Consider tummy sleeping

Second Visit: 6/1/17

The parents report that Tate has not been very cooperative with the Salamander movement. They were advised to try and do this activity when he is sleeping. They have been able to get him to sleep on his tummy with his head turned to the left. He is on his back by morning.

Tate continues to turn his upper trunk when he looks at something off to his side – especially on his left side. His head tilt is improved. He has 10° to 15° of left head tilt over 50% of the time vs the 30° of head tilt present consistently at the first visit. No change in his headrighting and parachute reaction. His best head alignment is in the prone airplane position. We decided to continue to use this activity to promote automatic midline head control and added "dive bombing" towards the couch to help promote the parachute reaction.

Additionally, the six passive rhythmic movements from RMTI were taught to the family.

Kinesiology tape was utilized as in the first session.

6/6/17: Had class on Parachute Reaction (from the Brain and Sensory Foundations, Second Level course).

Third Visit: 6/8/17:

Mother reports that she is able to do up to 3 minutes of the rhythmic movements before he throws a fit. Mom sings songs to him during the movements. She is encouraged to keep performing these movements and increasing the time as Tate allows.

No change from the last visit in regards to head alignment and function. He continues to turn his trunk when looking to things off to the side.

Headrighting unchanged from initial visit. With passive parachute reflex integration his parachute reaction started to emerge after each time this integration technique was used!

We continued with kinesiology taping, sleeping in prone with head turned to his left, salamander rhythmic movement during sleep, six passive rhythmic movements, and prone airplane flying.

New activities added:

- Passive parachute reflex integration: Hold elbow & wrist so that arm is straight and give pressure through the base of Tate's hands before practicing the parachute reaction over the exercise ball or when dad is playing airplane with him. (From Second Level course)
- Tap on the left neck muscles just prior to feeding him his bottle with the right head tilt (from the Brain and Sensory Foundations, Second Level course).
- In standing, someone stabilize his shoulders and then have one of the other kids play puppets off to his side so he would have to look without turning his head.
- Prone on forearms on platform swing with physical cues to hold head in midline.

6/13/17: Facial Oral Reflex Class

Fourth Visit: 6/15/17

Upon my arrival, mom was soooo excited to show me that Tate now has a crisp parachute reaction when she rolls him forward over the exercise ball. What a great improvement in one week! The headrighting reflex with the body tilt to the left is starting to emerge as well. These improvements appear to be directly attributed to the passive parachute reflex integration activity and the neck tapping initiated last week.

Additionally, the mother reports that she looked back at photos on her phone that she took prior to sessions with me starting. She was pleased with the improvement she saw.

Head alignment: Tate holds his head in midline when upright 25% of the time when he is playing on his own. The other 75% of the time it is tilted about 10°.

He was observed 3 times to put his left hand down when he was sitting and to start creeping to his left side. Another nice improvement.

The kinesiology taping was discontinued.

Home program:

• Passive parachute reflex integration activity.

• Tap on left neck muscles just prior to feeding him his bottle with the right head tilt.

• Six passive rhythmic movements.

• Facial stroking.

• Facial trigger points.

• Strategies developed to help Tate learn how to drink through a straw.

• Sit on exercise ball with Tate facing you. Model headrighting for Tate as you lean left and right.

• Prone platform swing activities.

Fifth Visit 6/22/17

Mom excitedly reports that Tate is holding his head in midline at least 30% of the time when he is outside playing with his siblings and cousins. She said that the other 70% of the time, the tilt of his head is slight. This was confirmed by observations during the session.

He is putting his left hand down about 30% of the time when he is in sitting in comparison to his right hand being put down 70% of the trials.

His parachute reaction is crisp and consistent. His headrighting with a left body tilt is sluggish but gradually improving.

He now turns his head instead of his body when looking at something off to the side.

Home Program:

Will continue with the activities as written for last visit plus the following activities were added:

• During prone flying, occasionally fly him with his right side up to strenghthen that side of his neck.

• Sitting platform activities to encourage left hand to go down.

Sixth Visit 6/29/17

Mom said she is very, very happy with Tate's progress. She only sees the head tilting when he is tired. Tate is now able to drink from a straw and his head is in midline when drinking from a straw.

Tate's head alignment is essentially midline >75% of the time. He has a tilt between 5° to 10° at other times. He has full active motion of his head. His reach appears symmetrical. He is using his left hand 40% of the time to get into and out of sitting. (50% would be symmetrical in comparison to the right).

Tate's headrighting is improving in response time and consistency. The parachute reaction is crisp and consistent.

The home program activities include:

• Passive parachute reflex integration activities.

• Tap on left neck muscles just prior to feeding him his bottle with the right head tilt.

• Six passive rhythmic movements.

• Drink from a straw.

• Sit on exercise ball with Tate facing you. Model headrighting for Tate as you lean left and right.

• Platform swing: prone and sitting activities.

Tate was scheduled for 7/6/17 but had to cancel due to pink eye. Therefore, this is my case report to date. **I am so very impressed with the passive parachute reflex integration activities, salamander rhythmic movements, and neck tapping** (from the Brain and Sensory Foundations, Second Level course). Tate's prognosis is excellent to have full resolution of his torticollis despite starting at the late stage of 13 months.

(Emphasis Added)