



# Case Study:

## Interprofessional Practice (IPP) Team Develops Dental Treatment Plan for 8-Year-Old Child with Spastic Cerebral Palsy

Interprofessional Professionalism Collaborative (IPC)

### Summary

An 8-year-old boy with mild to moderate quadriplegic spastic cerebral palsy began to complain of a toothache. Through videoconferencing, David's IPP team discussed the concerns of tooth pain, and the need to conduct an oral health assessment for David. The team reached mutual agreement on an assessment plan to prepare for the visit with the dentist and a treatment plan to enhance David's oral health.

### Patient Info



**DAVID**  
8-YEAR OLD

#### Current Diagnosis:

Mild/moderate quadriplegic spastic cerebral palsy

### Meet The Team



Occupational therapist (OT)



Physical therapist (PT)



Speech-language pathologist (SLP)



Dentist



Patient



Family

Continue for more 

## Background

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David is an 8-year-old boy with mild to moderate quadriplegic spastic cerebral palsy. David communicates verbally with others and ambulates with assistance. He lives with his older sister, Sarah, and his mother, who assist him with completing daily care tasks such as his morning and bedtime routines. David and his family recently moved several hundred miles across the state due to his mother's new job opportunity. While settling into their new home, David began to complain of a toothache. David has been to the dentist only a few times in the past and his mother is aware that David's home oral care is not the best. Although she does her best to help him brush his teeth, David has considerable difficulty performing optimal oral health care independently. David's mother made an appointment for him to see a dentist, but she is concerned about the barriers that may make the appointment unsuccessful.

David's previous physical therapist provided his mother with a recommendation for a physical therapist locally in their new hometown. She has arranged for an initial consultation for David with the new interprofessional team members, which includes a speech-language pathologist (SLP), physical therapist (PT), and occupational therapist (OT).

## How They Collaborated

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The IPP team collaborated on an assessment plan to prepare for David's visit with the dentist and a treatment plan to enhance David's oral health. The IPP team met to discuss the findings of their initial assessments. When the SLP assessed David, they found he can follow directions and express his needs to his family, though he displays poorer speech intelligibility with unfamiliar listeners, which may impact his ability to communicate discomfort to his dentist. David has a history of dysphagia resulting in delayed swallow initiation and benefits from upright positioning to increase control of liquids during swallowing. Additionally, David demonstrates oral-motor defensiveness and hypersensitivity, and may not tolerate instruments in his mouth during a dental procedure. The OT reported that David shows poor fine motor dexterity and benefits from being seated at the sink when brushing his teeth for external proximal support. Adapted handles on his toothbrush and cup and a pump toothpaste dispenser support independence during toothbrushing, though David tends to get distracted easily and is likely not achieving quality toothbrushing without caregiver assistance. The PT described David as having a low tolerance to pain and responding to painful stimuli quickly. He startles easily to loud noises, which affects some aspects of his motor control. When seated, David needs to be in a chair with at least 90 degrees or more of hip flexion to maintain good posture; otherwise, he may require a strap to keep his hips flexed while seated in the chair.

The IPP team videoconferenced with the dentist prior to the dental examination using a secure line in compliance with HIPPA to discuss concerns of tooth pain and the need to conduct an oral health assessment for David.

After sharing their assessments, David's family and the IPP team members agreed upon a set of recommendations. The SLP recommended framing questions with limited response options (e.g., yes/no questions) to increase understanding of David's speech and encouraged David's mother to provide clarification as needed. Given the anticipated length of the procedure, David may become distracted and have limited tolerance for sitting. In this case, he will tend to hyperextend his neck to gain stability, which can make it challenging for him to swallow; therefore, maintaining a chin-tuck position can improve his comfort and be beneficial for swallowing safety. Loud noises, such as a drill, may set off a startle reflex in David and cause him to suddenly move during the dental procedures. The OT recommended telling David, in advance, when the dentist will be using instruments that are loud to help minimize this response. The PT focused on David's mobility and identified that he may require minimal assistance to pull his legs up into the reclining dental chair. The angle of the dental chair may cause David to slide down in the chair, which can be prevented using a strap or seat belt to keep him well positioned. Depending upon how long the procedure takes and what is performed, David may need assistance from his mother or his assistive device to walk back to the waiting room.

## Outcome

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The dentist successfully treated David's tooth, which was causing his discomfort, with the support of the IPP team. As a part of his examination, the dentist noted that David's oral hygiene needs to be improved to prevent further problems with his oral health in the future. After David's appointment, the IPP team met with David's family to strategize a plan to increase David's oral care consistency and his independence during toothbrushing. The dentist recommended using an electric toothbrush to enhance dental hygiene and save time during toothbrushing to decrease the likelihood of distractions resulting in incomplete oral care. David's oral sensory defensiveness will likely impede electric toothbrush use due to the vibration, which can be addressed during speech-language therapy sessions with his SLP. David's OT and PT recommended adapting his electric toothbrush with a handle and targeting standing safely at the sink to better accomplish oral care independently. The IPP team also proposed strategies, including a reward system for successful oral care, a visual chart for completion of daily care tasks, and completing oral care as a family, to decrease the length of David's morning routine and reduce his high distractibility during activities of daily living.

## Ongoing Collaboration

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David's rehabilitation and oral hygiene plans continue and the IPP team agreed to meet in 2-3 weeks to reevaluate his care, share their observations, and make further recommendations.

# Case Rubric:

## Interprofessional Practice (IPP) Team Develops Dental Treatment Plan for 8-Year-Old Child with Spastic Cerebral Palsy

Interprofessional Professionalism Collaborative (IPC)

### Patient Info



**DAVID**  
8-YEAR OLD

#### Current Diagnosis:

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### Meet The Team



Occupational therapist (OT)



Physical therapist (PT)



Speech-language pathologist (SLP)



Dentist



Patient



Family

Continue for more

## History and Concerns

(Share key information gathered from team)







David is an 8-year-old boy with mild to moderate quadriplegic spastic cerebral palsy. David communicates verbally with others and ambulates with assistance. He lives with his older sister, Sarah, and his mother, who assist him with completing daily care tasks such as his morning and bedtime routines. David and his family recently moved several hundred miles across the state as the result of his mother's job opportunity. While settling into their new home, David began to complain of a toothache. David has only been to the dentist a few times in the past and his mother is aware that David's home oral care is not the best. Although she does her best to help him brush his teeth, David has considerable difficulty performing optimal oral health care independently. David's mother made an appointment for him to see a dentist, but she is concerned about the barriers that may make the appointment unsuccessful.

David's previous physical therapist provided his mother with a recommendation for a physical therapist locally in their new hometown. She has arranged for an initial consultation for David with the new interprofessional team members, which includes a speech-language pathologist (SLP), physical therapist (PT), and occupational therapist (OT).

## Assessment Plan

(Determine roles/responsibilities for evaluation)

At the initial meeting, the therapy team discussed and mutually agreed regarding the following assessment needs:

-  **Dentist** - overall oral health and acute hygiene issues.
-  **SLP** - oral sensorimotor, speech, and language evaluation.
-  **PT** - physical mobility, gross motor skills, and motor control.
-  **OT** - fine motor skills including dexterity and distal control.

## Assessment Results

(Summarize key diagnostic results)

After completing their individual assessments, the team reviewed the results. The IPP team videoconferenced with the dentist prior to the dental examination using a secure line in compliance with HIPPA to discuss concerns of tooth pain and the need to conduct an oral health assessment for David.

Assessment results were as follows:



**SLP** – David follows directions and expresses his needs to his family, though displays poorer speech intelligibility with unfamiliar listeners, which may impact his ability to communicate discomfort to his dentist. David has a history of dysphagia resulting in delayed swallow initiation and benefits from upright positioning to increase control of liquids during swallowing. Additionally, David demonstrates oral-motor defensiveness and hypersensitivity, and may not tolerate instruments in his mouth during the procedure.



**PT** – David walks independently for moderate distances with fair balance and uses an assistive device or ambulation when he is fatigued later in the day. He demonstrates fair to good balance when working on an activity with support. David has a low tolerance to pain and responds to painful stimuli quickly. He also startles easily to loud noises, which can affect some aspects of his motor control. When seated, David needs to be in a chair with at least 90 degrees or more of hip flexion to maintain good posture; otherwise, he may require a strap to keep his hips flexed while seated in the chair.



**OT** – David shows poor fine motor dexterity and benefits from being seated at the sink when brushing his teeth for external proximal support. Adapted handles on his toothbrush and cup and a pump toothpaste dispenser support independence during toothbrushing, though David tends to get distracted easily and is likely not achieving quality toothbrushing without caregiver assistance.

## IPP Treatment Plan

(Discuss, reflect, and modify recommendations to develop a coordinated plan)

After sharing their assessments, David's family and the IPP team members agreed upon a set of recommendations.



**SLP** – Framing questions with limited response options (e.g., yes/no questions) to increase understanding of David's speech, as well as encouraging David's mother to provide clarification as needed. Given the anticipated length of the procedure, David may become distracted and have limited tolerance for sitting. In this case, he will tend to hyperextend his neck to gain stability, which can make it challenging for him to swallow; therefore, maintaining a chin-tuck position can improve his comfort and be beneficial for swallowing safety.



**OT** – Telling David, in advance, when the dentist will be using instruments that are loud to help minimize this response. Loud noises, such as a drill, may set off a startle reflex in David and cause him to suddenly move during the dental procedures.



**PT** – Focusing on David's mobility and identifying that he may require minimal assistance to pull his legs up into the reclining dental chair. The angle of the dental chair may cause David to slide down in the chair, which can be prevented using a strap or seat belt to keep him well positioned. Depending upon how long the procedure takes and what is performed, David may need assistance from his mother or his assistive device to walk back to the waiting room.

## Treatment Outcomes

(Discuss results of treatment)

The dentist successfully treated David's tooth, which was causing his discomfort, with the support of the IPP team. As a part of his examination, the dentist noted that David's oral hygiene needs to be improved to prevent further problems with his oral health in the future. After David's appointment, the IPP team met with David's family to strategize a plan to increase David's oral care consistency and his independence during toothbrushing.



**Dentist** - Recommended using an electric toothbrush to enhance dental hygiene and save time during toothbrushing to decrease the likelihood of distractions resulting in incomplete oral care.



**SLP** - Recommended that David's oral sensory defensiveness will likely impede electric toothbrush use due to the vibrations, which can be addressed during speech-language therapy sessions with his SLP.



**OT/PT** - Recommended adapting David's electric toothbrush with a handle and targeting standing safely at the sink to better accomplish oral care independently.



The IPP team also proposed strategies, including a reward system for successful oral care, a visual chart for completion of daily care tasks, and completing oral care as a family, to decrease the length of David's morning routine, as well as his high distractibility during activities of daily living.



### Team Follow-Up

(Determine meetings & communication plan)

David's rehabilitation and oral hygiene plans continue and the IPP team agreed to meet in 2-3 weeks to reevaluate his care, share their observations, and make further recommendations.

### Acknowledgement

ASHA extends its gratitude to the subject matter experts of the Interprofessional Professionalism Collaborative (IPC) who were involved in the development of the original version of this IPP case.

### Citations

American Speech-Language-Hearing Association. (n.d.). IPP team develops dental treatment plan for 8-year-old boy with spastic cerebral palsy.

[www.asha.org/practice/ipe-ipp/case-studies/case-study-22/](http://www.asha.org/practice/ipe-ipp/case-studies/case-study-22/)

Interprofessional Professionalism Collaborative (n.d.). *The case of David and oral health* [IPA Toolkit]. <http://www.interprofessionalprofessionalism.org/toolkit.html>

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