Fact Sheet

Physical Therapist's Management of Infantile Gastroesophageal Reflux

APTA Academy of Pediatric Physical Therapy

Introduction

Gastroesophageal reflux (GER) is a normal physiological process that occurs daily in most infants. More than 50% of infants younger than 3 months of age spit up at least once a day.[1] GER is the passage of gastric contents into the esophagus with or without regurgitation or vomiting.[2] An infant with GER may be referred to as a 'happy spitter' because they do not demonstrate discomfort with the regurgitation. Infantile GER symptoms typically worsen at approximately four months and begin to improve around six months of age.[3] Preterm infants born before 32 weeks postmenstrual age (PMA) demonstrate more severe and longer-lasting symptoms of GER than infants born at later ages.[4] GER may advance to pathologic gastroesophageal reflux disease (GERD) when troublesome symptoms affect daily functioning.[1] GERD is known to have a higher occurrence in infants who have other underlying medical conditions, such as prematurity, neurologic impairment, gastrointestinal conditions, and pulmonary problems.[1]

No gold standard diagnostic test exists for GERD. Caregiver reports of symptoms and a thorough physical examination are fundamental in receiving a GERD diagnosis.[1] Symptoms may be both behavioral and medical, such as irritability, pain, arching, feeding refusal, dystonic neck posturing, esophagitis, dysphasia, hoarseness, otitis media, apnea, stridor, aspiration, worsening respiratory conditions, and poor growth.[1,5] Other symptoms, such as lethargy, fever, dysuria, late-onset (>6 months) or persistent vomiting (>12-18 months of age), bulging fontanels, seizures, nocturnal or bilious vomiting, hematemesis, chronic diarrhea, or rectal bleeding, warrant in-depth diagnostic testing to rule out other conditions.[1] Infantile GERD can lead to parental stress and depression.[6]

Management of Infantile GERD

The management of GERD is a complex task, requiring the expertise of a multidisciplinary team, including a pediatrician, neonatologist, gastroenterologist, ear nose and throat doctor, dietician, and feeding specialists. Non-pharmacological strategies are considered the first line of treatment for infantile GERD.[1,2]

Physical therapists (PTs) may assist with identifying GERD, coordinate management between the medical and therapy teams, support the parents, and suggest non-pharmacological management strategies. PTs have the unique opportunity to lessen the burden of infantile GERD by modifying daily routines, progressing developmental skills, and providing valuable family support and education. Clinical expertise, or the proficiency and judgment of highly experienced clinicians using clinical experience and practice,[7] along with current literature on infantile GERD, was used to inform strategies that PTs may use to help decrease GERD symptoms for infants in the Neonatal Intensive Care Unit (NICU), Pediatric Intensive Care Unit (PICU) and below 12 months of age (Table 1). No known literature exists directly linking PTs or PT intervention to the management of infantile GERD and more research is needed.

TABLE 1: Management Strategies for Infantile GERD

Positioning
Infants with GERD demonstrate a preference for increased extensor posturing and movements. Certain positions that increase intraabdominal pressures, such as prop sitting or prone, may exacerbate GERD symptoms. While positional variation is important for developmental progression, PTs should modify positions to limit excessive hip and trunk flexion, based on symptom severity. • Avoid sitting devices that encourage trunk flexion (i.e., infant floor seats and swings) • Provide an elevated surface for hands or arm support during prop sitting practice • Offer prone positioning on a moldable surface, such as on an exercise ball, over the caregiver's lap, or in a football position in the caregiver's arms • Position upright against the caregiver's chest or shoulder for 30 minutes after a feeding • Allow awake, supervised left side-lying positioning for play[1,8]
Strengthening Activities
GERD symptoms typically improve with age as postural stability and anti-gravity positions are achieved. Strengthening the abdominal wall musculature helps balance internal and external intra-abdominal pressures and supports diaphragmatic engagement with the lower esophageal sphincter.[9,10] • Promote developmentally appropriate progression of skills with modifications based on individual symptoms and infant tolerance to strengthen postural control in stable infants.[11] • Vocalizations using breath and sounds • Upper extremity weight bearing in positions that do not exacerbate symptoms
Feeding Modifications

Feeding recommendations or modifications are made only with or under the guidance of a medical team or feeding specialists. Referral back to the primary physician is recommended for these types of modifications.[1]
 	
• Feeding modifications that the medical team or feeding specialists may recommend:
    ○ Avoid overfeeding by using small volume, slow infusion, and more frequent feedings[2]
    ○ Thickened feedings may be indicated[12]

Parental Support for Infant Regulation Strategies

Irritability and pain are common symptoms of infantile GERD, which may be demonstrated by crying, arching, facial grimace, hypertonicity, tongue extension, straining, tremors, and gagging.[13] Educating the family on their infant's cues and how to decrease the stress response may enhance parental self-confidence in caring for and feeding their infant. The vagus nerve controls the digestive system[14] and activating the parasympathetic nervous system through calming strategies may provide families with a way to calm their baby and decrease their own stress.
 	
• Family support and education:
    ○ Infant stress and pain cues, including during feeding. Variability of cues is dependent on unique daily factors that may cause a varied response to stress reduction techniques
    ○ Encourage family bonding to enhance parental self-confidence[6]
• Stress reduction techniques using one or a combination of strategies based on infant response at any given time:
    ○ Kangaroo care (skin-to-skin)[15]
    ○ Positive auditory input (music, heartbeat, singing)[16]
    ○ Decrease overstimulation[13]
    ○ Non-nutritive sucking (NNS)[17]
    ○ Swaddling[18]
    ○ Infant massage[4,19,20]
    ○ Vestibular input (rocking, swaying) in an upright position[21]

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Developed by expert contributors: Nancy Oberg DPT, Ret, Board-Certified Clinical Specialist in Pediatric Physical Therapy; Carrie Crozier-Arena, PT, DPT, NTMC, CNT, DCS, Board-Certified Neonatal Therapist; Kimberly B. Castle PT, PhD, Board-Certified Clinical Specialist in Pediatric Physical Therapy; Shruti Joshi, PT, MS, DPT; Mary Massery PT, DPT, DSc; Margie Mizera PT, DPT, Board-Certified Clinical Specialist in Pediatric Physical Therapy. Supported by the Resource Document Committee and Editorial Committee of APTA Pediatrics.