

# Pivot from Pain to Productive: Conversations about Weight Management in Youth with Obesity

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## Abstract

The prevalence of childhood obesity is almost 20% and affects 14.7 million youth. It is not a matter of *if* but *when* and *how often* sports medicine clinicians will care for patients with obesity. Considering the social, emotional, medical, and physical impact of obesity, we need a nuanced approach to communicate with patients and develop effective treatment plans to maintain or encourage physical activity. Neuromusculoskeletal impairments, physical complications, pain, biomechanical differences, and physical deconditioning act as potential barriers to treatment. This article introduces ways to pivot the conversation from musculoskeletal pain to a productive, well-received conversation about a holistic approach to weight management that also promotes physical activity and overall wellness in youth with obesity. Special attention is given to equipping clinicians with recommendations that incorporate the use of inclusive language, health behavior theories, and tenets of motivational interviewing to deliver equitable treatment regardless of body habitus.

fatigue and higher perceived exertion that make physical activity feel more challenging and uncomfortable (5,7). Neuromusculoskeletal (NMS) impairments, physical complications, biomechanical differences, and physical deconditioning can all impede functional movement, physical activity, and enjoyment (5,8,9).

In children and adolescents with obesity, describing physical activity or disclosing musculoskeletal pain to health care providers (HCPs) can be complicated by stigma (weight and pain related) and prior experiences (10). Repeated experiences with weight bias and stigmatizing behaviors are associated with mood disturbance, weight gain, and avoidance of physical activity in adolescents with obesity (11).

In addition, weight stigma, internalized weight stigma (*i.e.*, blame and disgust), and negative self-perception of personal appearance are associated with avoidance of physical activity and weight gain (12).

Data on pain- and weight-related stigma in adolescents are similar (10). Specifically, adolescents exposed to pain-related and weight-related stigma experience social isolation, victimization (teasing and bullying) from teachers, peers, parents, and HCPs, as well as internalization of stigmatizing words and actions (10–13). These negative experiences threaten health and well-being because of subsequent avoidance or postponement of care, distrust of HCPs, poor disease management, mood symptoms, and poor quality of life (12,14).

In the current practice environment for HCPs — sports medicine or otherwise — clinic visits are short, and time is generally limited to 15 min (15). When faced with the prospect of tackling other issues, many may not have the time for challenging conversations about issues that are peripherally related to the specialty care they provide (16,17). Likewise, some clinicians are hesitant to discuss weight because of lack of training, fear of upsetting patients, or not meeting their expectations (16). In addition, weight bias and stigma can influence how clinicians characterize the mechanisms and degree of musculoskeletal pain in patients with obesity. There is evidence of weight bias among various aspects of weight-related health care (*e.g.*, physicians, dietitians, physical therapists, and personal trainers) that manifests as shorter clinic visits, anticipated nonadherence, and

## Introduction

In the United States, more than 14 million youth 2 to 19 yr old have obesity or body mass index (BMI)-for-age >95th percentile (1,2). Obesity is a complex, chronic disease that reflects the interactions of genetic, social, environmental, and personal factors (3,4). It is far more complicated than energy balance and personal behaviors. With roughly 2 out of 10 youth affected, it is likely that sports medicine clinicians will care for patients with obesity. To begin, obesity increases the risk of musculoskeletal pain, especially in the spine and lower extremities. Excess weight and altered biomechanics may account for some of the risks, but the mechanisms are not fully understood (5). In addition, when performing activities that propel or move body weight, youth with obesity often have higher lean mass of the lower extremity but lower or equivocal strength compared with children with healthy weight (6). Youth with obesity also may experience more

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1537-890X/2208/290–296

Current Sports Medicine Reports

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patient complaints being over-attributed to obesity (11,14). Other manifestations of weight bias include less time spent on educating patients about their overall health and well-being and more time spent counseling on energy balance and weight loss (18,19). However, the lived experiences of most patients with obesity are far more complex than energy balance and weight loss (13,14). In response to weight-stigmatizing or dismissive language, parents may feel embarrassed and either look for a new doctor or avoid future appointments all together (20,21).

It takes time and practice to gain sufficient confidence to consistently employ the tenets of motivational interviewing (MI) and patient-centered communication. Time-limited visits and crowded clinic schedules make it difficult to establish rapport with patients and can interrupt efforts to mitigate risks of implicit bias or stigmatizing behavior (22). Feeling rushed or under pressure of time constraints can undermine these efforts, including attempts to introduce weight management as part of the treatment for musculoskeletal pain. If not done correctly, patients and clinicians will leave the encounter with negative feelings or a sense of futility — nothing is going to get better.

Considering that obesity is a complex, chronic disease that affects the emotional, medical, and physical health of affected youth, a nuanced approach is needed in order to develop effective treatment plans to encourage or maintain physical activity (3,23). This article introduces ways to pivot the conversation from musculoskeletal pain to a productive, well-received conversation about a holistic approach to weight management that further promotes physical activity and overall wellness in youth with obesity. The goal is to equip clinicians with concrete recommendations on how to incorporate inclusive language, MI, and related health behavior theories thereby increasing clinician confidence and patient satisfaction.

### Physical Literacy and NMS Health

Physical literacy (PL) incorporates concepts of competence, knowledge, and confidence as the basis for lifelong physical

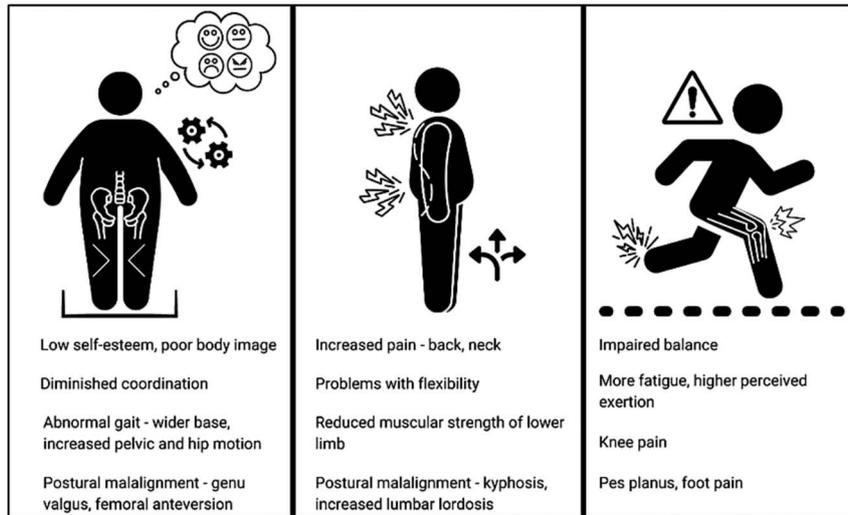
activity, whereas NMS health details a clinical model of impairments commonly associated with childhood obesity (*i.e.*, impaired balance and coordination, gait deviation, limited proficiency in motor skills, etc.) (5,24,25). Figure 1 depicts key components of PL, including affective (motivation and confidence), behavioral (lifetime engagement in physical activity), cognitive (knowledge and understanding), and physical (physical competence) domains. Whereas Figure 2 depicts potential NMS complications (5,25). Increasingly, paradigms like PL and NMS health are updating previous constructs of physical activity and functional movement. Such modernization is especially important because youth with obesity have higher rates of physical inactivity compared with youth with healthy weight (7). High PL is associated with fewer sedentary behaviors and more physical activity (26). Although the mechanisms are not fully understood, certain features of PL may help to mitigate the risk of physical inactivity. Free play, group fitness, and structured sports with similar-aged friends can positively influence motivation and emotional well-being (27,28). In addition, other components of the PL affective domain (motivation and confidence) influence self-worth, self-perception, and engagement in physical activity (29). In both qualitative and quantitative studies, physical activity is positively influenced by reassurance and autonomy to move as well as avoidance of negativity and judgment (7,26,29). HCPs and peers alike are capable of creating an environment supportive of PL and physical activity. However, in youth with chronic medical conditions, interventions focused on motor skill and physical competence activities may be better suited than education and motivation to support PL (30). With creativity and curiosity, there are countless ways to nurture PL and encourage physical activity.

Embracing a holistic approach to youth with obesity that considers PL and NMS health not only helps to reframe encounters but also clarifies the treatment plan and empowers both patients and sports medicine clinicians (7). As such, refinement of communication styles may provide added support to increase uptake



**Figure 1:** Components of physical literacy.

Issues with Gait | Alignment | Flexibility | Strength | Pain | Fatigue



**Figure 2:** Potential NMS complications of obesity.

of these modernized paradigms and facilitate more seamless attempts to pivot from discussions about pain to conversations about weight management that consider PL and NMS health (5,7,24) (Figs. 1 and 2).

**Patient-Centered Communication**

Health behavior theories inform communication styles and mitigate treatment barriers by encouraging more curious dialogue to strengthen the therapeutic bonds between patients

and clinicians. Techniques like MI that include open-ended questions, reflective listening, agenda setting, and change talk can empower patients to change certain health behaviors (31,32) (Table 1). The use of MI as an adjunct to disease management and treatment is well documented, including in the treatment of adolescents with obesity (33,34). Likewise, the 5As (ask, advise, assess, assist, and arrange) is another form of patient-centered communication that acts as an operationalized version of MI to help simplify discussions about behavior change and

**Table 1.**  
Patient-centered communication.

MI					
Set Agenda	Open-Ended Questions	Reflective Listening	Normalizing	Summarizing	
“What would you like to discuss today?”	“Can you tell me more about what you like?”	“What I hear you say is ...”	“A lot of people are concerned about changing ...”	“It sounds like you are concerned because it's affecting [Y]. Where does that leave you?”	
5As of Obesity					
Ask Permission	Assess	Advise	Assist/Agree	Arrange	
“Would it be okay if we talked about your weight?”	Factors that impact weight, readiness to change, and contributors to weight gain	Discuss health-related risks/benefits of weight management. Ask about any perceived risks/benefits	Assist with and agree on a plan or set of goals	Follow up and, if needed, provide referrals to additional resources	
Pivot from Pain					
Curious	Intentional	Flexible			
“Tell me more ... What concerns you most about the pain? What do you think is going on?”	“What would it take to make physical activity more fun [less painful]?”	“Can I share with you what I think could be affecting the pain?”	“Would it be okay if we discussed the growth curves [weight]?”	“What do you think about that? ... How does that sound?”	“Sounds like you want to start with physical therapy but hold off on a referral to weight management. Let's circle back in 8–10 wk and see how things are going ...”

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disease management in children and adults with obesity or other chronic diseases (35,36) (Table 1).

Training sports medicine clinicians in the use of people-first language and the application of different communication techniques adds to their skillsets. Patient-centered communication also considers the weight-related words and phrases preferred by youth with obesity, as well as acknowledgment that the meaning and significance may vary depending on factors like race/ethnicity, gender identity and expression, weight, and body habitus (23,37,38). Such a nuanced approach to communication is not a panacea to barriers to treatment but represents another method to help pivot the conversation (4,23,39) (Table 1).

### Referrals and Resources

Registered dietitians, exercise specialists, and physical therapists are also included in this evidence-based toolbox. Offering the services of these professionals satisfies several objectives — most notably, validation of the patient and their experiences. For youth with obesity who identify as athletes or participate in structured sports, access to these professionals is very important for recovery, return-to-play, and injury reduction. In children and adolescents with obesity-related NMS impairments and complications, access to physical therapists can improve functional movements by focusing on issues such as decreased muscular strength, limited range of motion or flexibility, gait abnormalities, and diminished gross motor proficiencies that can threaten physical activity and intensify pain (5–7). It is very possible that addressing NMS impairments supports PL by encouraging physical competence and acquisition of additional knowledge and insights (9).

Referral to structured weight management programs or obesity medicine specialists can help to oversee and coordinate the four pillars of obesity treatment: nutrition, physical activity, behavior therapy, and medical management (4,40). Multidisciplinary teams that specialize in the care of youth with obesity offer extra support for youth and their families, including access to advanced treatments like adjunctive pharmacotherapy and bariatric surgery. Collaboration between sports medicine, primary care, and other community resources can help to monitor musculoskeletal pain and impaired movement (Table 2). Recent clinical practice statements and guidelines

**Table 2.**  
Community collaboration and referrals.

Sports medicine
Physical therapy
Certified athletic trainer
Certified therapeutic recreation specialist <sup>a</sup>
Orthopedic surgery
Clinical nutrition
Psychology or behavioral health
Obesity medicine specialist
Multidisciplinary structured weight management program
Collaborative care with primary care provider

<sup>a</sup>Available in multiple practice environments, including hospital- and school-based therapeutic services, local community centers, or parks and recreation departments.

for HCPs offer timely recommendations and evidence-based methodology that consider PL and NMS health as part of comprehensive obesity treatment. During the clinic visit, careful history, review of systems, and physical examination can identify NMS impairment (4,40,41). Depending on time and practice setting, clinicians, athletic trainers, or physical therapists can administer assessments for PL like the Canadian Assessment of Physical Literacy (CAPL)-2 or the Physical Literacy Assessment for Youth (PLAY)-self (25,42).

### Pivot Principles in Action: Case Studies

The following case studies put the pivot principles in action and demonstrate ways to transition from a discussion on musculoskeletal pain to one that includes methods to support PL, maintain NMS health, and encourage overall well-being.

#### Meet Janie

Janie is a 16-yr-old female who presents with low back pain. Although she plays on two different softball teams, she has no history of injury. She has cardio conditioning workouts twice a week, resistance training, and batting practice once a week. Games are on the weekend, Friday through Sunday. In total, participation in softball exceeds 16 h·wk<sup>-1</sup>. Her BMI is 34 kg·m<sup>-2</sup> (BMI >95th percentile, obesity). On physical examination, you observe increased lumbar lordosis. Range of motion is intact albeit flexibility is limited. You order imaging studies. Radiographs and MRI are negative for pathology. At the follow-up visit, you review the results of the MRI and discuss the role of physical therapy to help with strength, flexibility, and postural control. You also discuss a plan to return to softball activities and conditioning. The family agrees to treatment. *To pivot to weight management*, you ask permission, e.g., “Is it okay if we talk about other factors that I think might be contributing to your back pain?” Janie says, “Sure.” You explain that a higher BMI carries a higher risk of chronic low back pain due to altered posture and decreased flexibility (NMS impairment). Janie gives you a blank stare. You continue, “Have you ever considered weight management to help treat your back pain?” Janie looks puzzled, slightly annoyed.

Aware that this pivot may have fallen flat, you use some of the phrases from Table 1, “What concerns you most about the back pain?” Janie explains that the back pain has affected her throwing mechanics. She fears that if it continues, her stats will decline, and college scouts will lose interest. She adds, “It’s not like I haven’t tried to lose weight before.” You gesture and say, “Tell me more. What happened?” Janie and her mother explain that in the past, the primary care provider recommended a 1500-calorie “low-carb” diet. Janie tried to follow the diet but often felt hungry or tired. She tells you, “Six weeks later and 2 lb heavier, I quit. It wasn’t worth it.” You look at Janie and her mother and say, “That must have been frustrating.” *To pivot from pain to productive*, you use reflective listening to summarize the visit, including Janie’s concerns about her performance and college scouts, “It sounds like the back pain is becoming a nuisance and affecting your sports performance. If we can skip the hunger and fatigue, you might consider weight management. Is that about right?” Janie nods.

Based on the Physical Literacy Self-Description Score of the PLAYself, you conclude that Janie has a high level of PL (42) (Fig. 1). She has no apprehension to movement. She is motivated to maintain some level of physical activity and address

the back pain due to her involvement in competitive sports. Based on her responses, you also reason that she is confident and competent in her physical ability. She is probably experiencing some weight-related NMS impairment combined with possible overuse, considering her participation in softball exceeds 16 h·wk<sup>-1</sup> (43,44). You suggest a referral to physical therapy for postural dysfunction, impaired flexibility, and a throwing analysis, which Janie finds particularly exciting. You also offer a referral to a registered dietitian who specializes in sports nutrition as this will include targeted nutrition advice that considers her schedule, participation in structured sports, and interest in weight management. You ask Janie to follow up with you in 6 wk. She agrees and comments, “This might actually work. Thanks for not blaming everything on my weight.” You take special care to outline this plan in the consultant note you send to primary care. But before you can pat yourself on the back, your team urges you to move on to the next room as quickly as possible. You are 30 min behind.

### Meet Jeremy

Meet Jeremy. His mother has been in the hallway twice asking your staff how much longer. You look through the chart and learn that Jeremy is a 13-yr-old boy, a new patient, with a 3-month history of worsening right knee pain. You look at the radiographs of his knee: open physes, no bony abnormality, negative. You also quickly peek at the growth curves and notice that his height is in the 90th percentile but the weight is not plotted. You look again. The weight and BMI far exceed the 95th percentile — neither is “low” enough to plot.

You enter the room and greet Jeremy and his mother. Without looking up from his phone, he says, “Call me Jerry.” Jerry has been complaining of knee pain going on 3 months, explains his mother, who serves as the primary historian. She is very concerned because there is no history of injury, but Jerry keeps skipping physical education (PE) class. When they go to the mall and walk for more than 15 min, Jerry says his knee hurts and asks to sit down. You ask him to point with one finger where his knee hurts the most. Without looking up from his phone, he says, “I don't know. It just hurts everywhere.” You notice that his mother is growing frustrated. You turn to her and ask, “What concerns you most about the knee pain? What do you think is going on?” She takes the phone from Jerry and looks up at you, “I don't know. We just spent \$100 on special shoes to help with the foot pain. Now the school is asking for a doctor's excuse because he has skipped PE class so many times. Every time we talk to primary care, we hear the same thing.”

She goes on to explain that according to the pediatrician, Jerry's weight is to blame for the foot pain, knee pain, back pain ... and all pain. Less weight equals less pain. They have been referred to weight management so many times that she has lost count. She sighs and says, “I can't get him to go to those visits. I can't get him to go for a walk with me. He barely leaves the house.” Jerry looks up and glares at his mother. She continues quietly, “No one has actually dealt with his pain. At this point, he walks slower than my 70-year-old mother and she uses a cane! I don't know what to do. I'm worried. I can't believe he has all this pain just because he is carrying a few extra pounds.” Without looking up, Jerry asks, “Are we almost done? Hurry up and tell me that my knees would feel better if I lost a few pounds.” You look at Jerry and ask, “What can I

do to help?” He looks up, “You can start by actually looking at my knee.”

The BMI is 42.3 kg·m<sup>-2</sup> (BMI >120% of the 95th percentile, severe obesity) (45). Physical examination is significant for tenderness around the patella. Range of motion of the right knee (and hip) is intact without pain or guarding. There is no effusion; his ligaments are intact without signs of meniscal pathology. When he stands, you observe genu valgus and overpronation of the feet, particularly with a one-legged squat motion. He has a wide-based stance. *To pivot from pain to productive*, at this point, a pivot to weight management would likely not be well-received; however, it is still possible to pivot to a more productive visit by applying the concepts of PL and NMS health.

Based on the CAPL-2 and assessment by the certified athletic trainer in your clinic, you conclude that Jerry exhibits low PL and several NMS impairments (5,25) (Fig. 2). Based on the history, Jerry seems to be caught in an unfortunate cycle wherein persistent pain and limited movement have eroded confidence and motivation, and probably undermine his ability to achieve physical competence. Moreover, there is evidence that Jerry and his mother have previously encountered weight bias, including over-attributing his symptoms to weight and obesity. It also is possible that he has experienced pain-related stigma (*i.e.*, dismissal or disbelief of pain and lack of understanding) that also negatively affects his mood, motivation, and confidence (10). Screening for mood disturbance and quality of life may be beyond the scope of the visit; however, acknowledging the emotional toll of Jerry's lived experiences is an important step in building rapport.

Administering screening surveys like Family Nutrition and Physical Activity and Physical Activity Enjoyment Scale may help to inform the treatment plan and provide valuable data to serve as milestones (12,46). However, this approach may not be feasible for a busy outpatient sports medicine clinic. Instead, you suggest a referral to physical therapy to address the knee pain and evaluate posture, flexibility, and balance — factors that could continue to impede enjoyable, pain-free movement. Screening surveys may be more feasible in this setting. You look at Jerry, “What do you think about that?” He looks up, “It's a start, I guess. How long do I have to do physical therapy?” You ask Jerry to follow up with you in 6 wk and add that if he has less knee pain, then you can discuss possible referral to a certified therapeutic recreation specialist to continue to encourage pain-free movement that supports physical and emotional well-being (Table 2). He agrees and comments, “OK. This might actually work.” You take special care to outline this plan in the consultant note you send to primary care and recommend close monitoring of Jerry's mood, social engagement, and quality of life. You also acknowledge that in subsequent visits, you will discuss other interventions for the family to consider, including behavioral health and structured weight management. But before you can pat yourself on the back, your team urges you to move on to the next room as quickly as possible. You are now 45 min behind.

You continue to move through your clinic schedule but ask your staff to alert patients and families to your tardiness in hopes that it mediates their patience. As you reflect on your day, you find yourself pleased (and relieved) about providing comprehensive care to patients and families who seemed receptive to pivoting the conversation from musculoskeletal pain to pillars of obesity treatment. You are optimistic about

developing therapeutic relationships that will build rapport and hopefully foster continued care. Perhaps you consider ways to adjust your schedule or billing practices to better accommodate visits that pivot. In the end, you recognize that in order to communicate more efficiently, you will need to continue to practice patient-centered communication and the “pivot principles.”

## Conclusion

Sports medicine clinicians can provide care to youth with obesity who not only deal with their musculoskeletal injuries and pain but also engage patients and families in their overall health and wellness. Using patient-centered communication techniques enables clinicians as they attempt to pivot from musculoskeletal pain to a discussion that includes obesity as a factor. This change in direction encourages more dialogue as well as offers support for treatment of obesity. Obesity medicine specialists and colleagues experienced in the application of MI and the 5As in obesity treatment can serve as role models and peer mentors during the process to implement new communication skills.

Obesity is a complex, chronic disease that reflects the interactions of genetic, social, environmental, and personal factors (3,4). It is far more complicated than energy balance and personal behaviors. The treatment of musculoskeletal pain in children and adolescents with obesity warrants a holistic approach that reimagines paradigms and adopts new skills to pivot from pain to productive.

Dr. Williams declares no conflict of interest and does not have any financial disclosures. Dr. Fischer is the immediate past president of the American College of Sports Medicine. No funding was received for this article.

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