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Overcoming the Difficulties of Obesity in the Clinical Application of Physical Therapy

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Prologue

- Not here to tell you what you already know
- Continuing your education not on Obesity, but overcoming Obesity
  - Understand the disease and how it works
  - Identify and challenge current treatment methods
  - Question
  - Learn
  - Measurable outcomes (less visits authorized, MUST increase value)
**Prologue (cont.)**

- Obesity is an epidemic that everyone understands, my goal for you is to directly apply measurable action to your treatment
  - Deeper understanding of the physiology within the epidemic and how it affects your treatment
- Obesity is a chronic disease that should be treated as such
  - Treatment must be administered and objective data analyzed
  - Subjective feedback utilized to prescribe plan of care that will encourage success

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**Learning Objectives**

- **The participant will be able to:**
  - Identify the complication of obesity when treating relevant musculoskeletal injuries.
  - Diversify at least three interventions for treatment plans to assist with treatment of obesity.
  - List at least three additional home exercises for common musculoskeletal injuries, to assist with treatment of obesity
Objectives

● Intro to Obesity
● Cost of Obesity
● Primary causes of Obesity
● Co-morbidities associated with Obesity
● Role of Ther-Ex & comorbidities

Objectives (cont.)

● “Weight stigma”
● Current treatment methods
● Complications of treating Obese patients
● Solutions for treating Obesity
● Interactive Q & A with attendees
Introduction: Obesity

- BMI > 30 kg/m^2
- Obesity affects approximately 35% of the population and is climbing annually at a rate of 1-2% (Flegal et al., 2016)
  - 35% of men and 40% of women are classified as obese according to BMI
  - “Compared with normal-weight adults, obese adults had at least 20% significantly higher rate of dying of all-cause or CVD” (Borre & Samuel, 2016)

Introduction: Obesity (cont.) (Jackson & Devine, 2016)

- By 2030, 51% of the population will be obese, 86% will be overweight
- Of the 34 million patients who suffer from lower back pain, 64% are overweight or obese
- Several medical groups have cut-offs for BMI for elective joint replacement
  - Most common is BMI of 40 kg/m^2
  - Likelihood of complication during and after increase 5000% BMI above 40 kg/m^2 for spine surgery
The cost of Obesity (Cawley et al., 2015)

- Obesity related disease accounts for 21% ($190.2 billion)
- 10% annual decrease in body weight for the following BMI results in annual cost savings of:
  - 35 kg/m^2: $854
  - 40 kg/m^2: $3,400
  - 45 kg/m^2: $15,000

The cost of Obesity (cont.) (Cawley et al., 2015)

- Higher rate of absenteeism, presenteeism and lower productivity
- Increased prices for YOUR practice
- Equipment that will fit and sustain patient care
- Cancellations, lost revenue
Primary causes of Obesity (Lavie et al., 2016)

- Hotly debated topic
  - Exercise or nutrition?
- Chronic positive energy balance
  - Consuming more calories than expended
- Primary: Increase of availability of calorie-dense food
  - Behavior must change, more psychological than physical

Primary causes of Obesity (cont.) (Lavie et al., 2016)

- Hotly debated topic
  - Exercise or nutrition?
- Chronic positive energy balance
  - Consuming more calories than expended
- Secondary: Decrease in Physical Activity
  - Occupational PA
  - Household PA
  - Leisure-time PA
    - Leisure-time PA has shown no significant decline in recent years, only Occupational and Household
Co-morbidities associated with Obesity

- Type II diabetes mellitus
  - Insulin sensitivity
- Hypertension
  - Increased vasoconstriction
- Dyslipidemia
  - Contributes to atherosclerosis

Co-morbidities associated with Obesity

- Cardiovascular disease
  - Increased afterload and ventricular hypertrophy
- Osteoarthritis
  - Decreased joint space
  - Increases risk of joint pain 2 to 4 times over two years
- The list goes on and on......
Type II Diabetes mellitus

**IMPORTANCE OF INSULIN**

Hypertension

Normal blood flow **vs** Restricted blood flow

*ADAM*
Dyslipidemia

Cardiovascular disease
Osteoarthritis

Role of therapeutic exercise for co-morbidities

- Uptake and regulation of blood glucose
  - Glut-4 Transporters
- Improve health of all muscle
  - Not just skeletal, smooth and cardiac as well
- Improve metabolic efficiency
  - Utilizes triglycerides on a regular basis
Role of therapeutic exercise (cont.)

- Improves cardiac output and stroke volume
  - Increased preload/decreased afterload
  - Decrease resting heart rate
- Assists with regulation of body weight
  - Increased joints space and decreased inflammation

“Weight stigma”

- Dual meaning
  - Internalized attitude towards own body weight
  - Generalizations about others who are overweight or obese
- Maintain own personal health to set example
“Weight stigma” (cont.)

- Physical Therapy setting
  - “No wonder your knees hurt, your overweight”
  - Importance of understanding perception
    - Similar to pain, patients do not accept root cause
- HAVE TO GET AWAY FROM LAZINESS STIGMA
- **Case Studies:**
  - The Medicare Patient
  - The Athlete
  - The “Dad Bod”

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Current treatment models of Obesity in PT Clinic

- Include multi-disciplinary approaches
  - Massage therapy, RD, personal training, etc.
- Management vs. Lifestyle modification
  - Modalities to manage symptoms vs. creating a change
Current treatment models of Obesity in PT Clinic (cont.)

- Facility memberships to encourage utilization
  - ATI specifically having fitness centers
- Nutrition supplements, meal replacements, etc.
- Referral out
  - Weight Watchers, Jenny Craig, etc.

Complications of treating Obese patients (Zhang & An, 2009)

- Limited with treatment plan
  - Must be constantly monitored for safety
- Equipment in the clinic must be sufficient
- Abnormal gait
  - Increased outflux of cytokines (inflammation)
Complications of treating Obese patients (cont.) (Zhang & An, 2009)

- Poor metabolic efficiency
  - Hypoglycemia upon exertion, dangerous
- Poor adherence to HEP
- Increased likelihood of re-injury
- Increased duration of care and visits
  - Decreased healing rate

**Solution:** Treat Obesity within your normal care, not matter the diagnosis

Solutions for treating Obese patients: Identify

- **ADDRESS THE CONDITION AS SOON AS POSSIBLE**
  - Use Medical History Questionnaire
  - People will bring it up, jump on the opportunity and discuss complications, help patient make connection, don’t make it for them
- People will use justifications to reasons
  - Validate and empathize
  - You cannot change a person’s beliefs Day 1
Solutions for treating Obese patients: Identify (cont.)

- Provide solutions for every excuse
  - Nutrition: track food, exercise, modify HEP, motivation, e-mail accountability
- Patient must be in right stage of change
- Develop a treatment protocol in your clinic to present
  - Just like any other diagnosis, needs to be replicable protocol and offer options

Solutions for treating Obesity in your clinic: Goals

- SMART, just like any other goal
- During PT eval, include tertiary goals
  - Not specialists, but have knowledge to assist
- Include in plan of care
  - Patient will track nutrition, see RD, seek care of OEA
- Track progress of goals
  - Weekly, monthly, just like any other goal patient must be accountable
Solutions for treating Obesity in your clinic: Options

- Research indicates team setting (Ferrari et al., 2017)
  - Utilize people in clinic
  - Spending large time w/ patient, train as health coach
- Outsource as needed
  - Similar to acupuncture, massage therapy, etc.
  - Develop working relationship

Solutions for treating Obesity in your clinic: Options (cont.)

- Provide options
  - Not cookie cutter, have to personalize according to patient
- Flexible, however have to structure
  - The patient doesn’t know what to do, otherwise they would do it
- Integrate extra treatment into sessions
  - Aerobic (60-70% of HRmax), circuit, large muscle group movements, etc.
- Prescribe aerobic HEP into normal HEP
  - Polar heart rate monitor (.99 coefficient) (Wang et al., 2017)
Solutions for treating Obesity in your clinic: Results

• Must have measurable objective outcome (not
  • Weight, body composition, inches, etc.
  • Think about additional variables (BP, BG, etc.)
  • Need to have a follow up timeline (progress note)

Solutions for treating Obesity in your clinic: Results (cont.)

• Must be held accountable
  • Relationships are built on trust, often created by conflict
• Patients need to see results
  • Less visits per diagnosis, more services you can provide the better
• Increase NPS, more patients in the door
Conclusion

• Does not have to be specialty in your clinic
  • It can be a POSITIVE side effect
• Every patient may not be a candidate
  • Something is better than nothing, have a referral source ready
• Setting they were willing to come to (PT), have to take advantage of
  • Many patients do not feel safe elsewhere
• Ignoring it should not be an option
  • Not a consistent referral source for types of physicians
• Failure to address will only result in decreased long term outcomes and potential loss of patient

Interactive Q & A with attendees