Wellness and Holistic Physical Therapy, 2nd edition

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PHYSICAL THERAPIST PATIENT MANAGEMENT

...the most crucial step toward healing is having the right diagnosis.
If the disease is precisely identified, a good resolution is far more likely...
Andrew Weil, MD (1942 -)

APTA'S PHYSICAL THERAPIST PATIENT

In 1995, the American Physical Therapy Association (APTA) published a Position Statement to endorse the "**Physical Therapist Patient/Client Management Model**," which consists of six components: examination (including the history, systems review, and tests and measures), evaluation, diagnosis, prognosis (including plan of care), intervention, and outcome. Refer to *Figure 3-1.1. APTA's Physical Therapist's Patient / Client Management Model*. The APTA continues to endorse this model. Physical therapists can use the model to describe and quantify a patient's need for services, determine whether consultation with or referral to another discipline is indicated, conclude if the patient will benefit from physical therapy, and, if so, develop the physical therapy plan of care (APTA, 2016). It is critical to understand the physical therapist's management of a patient should be an **ongoing and iterative** process (APTA, 2016). Thus, at any point during an episode, the physical therapist might consult with, co-manage with, or refer the patient to another practitioner. The physical therapist develops the physical therapy plan of care and is accountable for it – whether that means there is only one physical therapy visit or retention of the patient for additional visits. Optionally, the physical therapist may utilize the assistance of, direct, and supervise a physical therapist assistant and/or aide. Refer to *Figure 3-1.2. Physical Therapist Decision Making*. The APTA's (2011) *Today's Physical Therapist: A Comprehensive Review of a 21st-Century Health Care Profession* provides rich detail of APTA's Physical Therapist Patient /Client Management Model, which we will now review. Integrated into our discussion will be additional information related to wellness and holistic physical therapy.

Figure 3-1.1. APTA's Physical Therapist Patient/Client Management Model

EXAMINATION

According to the APTA, the initial examination is a "comprehensive screening and specific testing process leading to diagnostic classification and/or, as appropriate, to a referral to another practitioner" (2011, p 10). The **examination** consists of the history with systems review and tests and measures; it must be performed on all patients and prior to the provision of treatment. (APTA, 2011). The **history** component of the examination is somewhat of a misnomer because, according to the APTA, it consists "of data from both the past and **present**" (2011, p 10). The APTA describes the systems review as "a **brief or limited examination** of: (1) the anatomical and physiological status of the patient's/client's cardiovascular/pulmonary, integumentary, musculoskeletal, and neuromuscular systems; ability, affect, cognition, language, psycho-emotional status (eg self-efficacy and motivation), and learning style of the patient /client (3) review the "red flags" and other **screening** data" (2011, p 10).

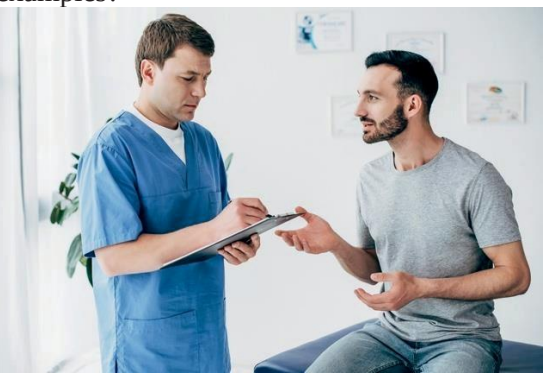
It is the **affect, psycho-emotional status**, and to a certain extent the learning style and 'ref flags' that holistic physical therapy focuses. The tools holistic physical obtains data about these areas are **screens** and **patient self-report**. "Using the data from the history and systems review, the physical therapist generates diagnostic hypotheses that he or she further investigates by specific tests and measures. These tests and measures are used to rule in or rule out the presence of and links between impairments in the patient's / client's body function and structure, activity limitations, and participation restrictions; to establish a diagnosis, prognosis, and plan of care; and to select interventions" (2011, p 10). The APTA provides a list of physical therapy tests and measures, which includes those related to the "promotion and maintenance of health, wellness, fitness, and quality of life in all age populations" (APTA, 2011, p 57). Refer to *Online Link 3-1.3. APTA's Tests and Measures.*

Online Link 3-1.3. APTA's Tests and Measures

https://www.apta.org/uploadedFiles/APTAorg/Practice_and_Patient_Care/PR_and_Marketing/Market_to_Professionals/TodaysPhysicalTherapist.pdf

HOLISTIC EXAMINATION AND PATIENT SELF-REPORT

To **screen** / examine a patient's communication ability language, cognition, learning style, affect, and psycho-emotional and social status, the emphasis is on **patient self-report** (as introduced in Principle 4: Patient Self Report in the Model of the Holistic Physical Therapy). Patient self-report is conveyed either deliberately or unknowingly and consists of a patient's (verbal or written) **answers** to your questions and **unsolicited statements**, and **face-to-face behaviors** and **body language**. An example of a simple answer is "Hmm, well, to be honest, just one" in response to the question, "How many days in the past seven days did you stretch?" An example of a patient answering your question and body language is a patient stating "hmm, well, I guess no" with a frown her face when you ask her if she has friends for social support. An example of an unsolicited statement and a face-to-face behavior is if a patient suddenly states he is "really pissed off" at his medical insurance company while he bangs his fist on your desk. What are some other examples?



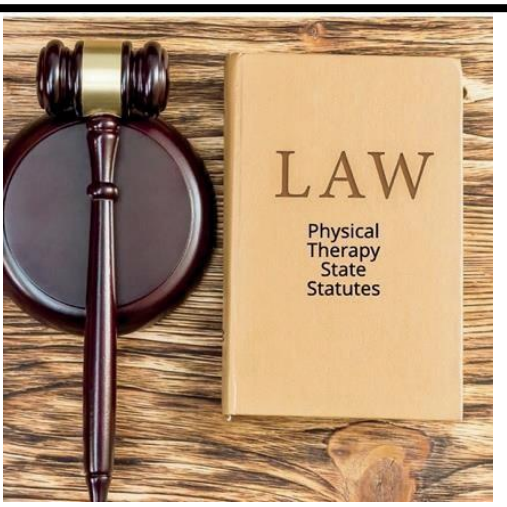
CHAPTER 4 - SECTION 2:
PHYSICAL THERAPIST SCOPE OF NUTRITION PRACTICE

The professional scope of practice for physical therapists is ever evolving.
APTA, 2017, Sept 26

SCOPE OF PRACTICE

According to the APTA, "It is within the professional scope of physical therapist practice to **screen** for and provide information on diet and nutritional issues to patients, clients, and the community. This includes appropriate consultation or co-management with or referral to a registered dietitian when seeking the expert opinion of another provider with specialized knowledge or skills, or to obtain services for a patient or client that are beyond the professional or personal scope of practice of the physical therapists" (APTA, 2019 Sept, para2). The physical therapist scope of nutrition practice is determined by the physical therapist **jurisdictional, professional**, and **personal** scopes of practice. We will next examine these three scopes of nutrition practice in turn.

Physical Therapist Jurisdictional Scope of Practice



Physical therapists should examine their respective state practice act, found at:

http://www.apta.org/Licensure/StatePracticeActs/

Physical therapists should also examine their respective state regulations of nutrition practice, found at:

https://theana.org/advocate

In most states, it is legal for physical therapists to provide nutritional counseling, with exception of medical nutrition in some of these states. In other states, nutrition counseling by non-registered dieticians and certain other medical professionals (e.g., physicians) is more restrictive.

At the federal level, the Center for Medicare and Medicaid Services (CMS) requires home health physical therapists to screen a patient's nutritional status and provide basic education as part of the mandated OASIS assessments.

CHAPTER 5 - SECTION 3:
BENEFITS OF THE WHOLE-FOOD PLANT-BASED DIET

To eat is a necessity, but to eat intelligently is an art.
Francois de la Rochefoucauld (1613-1680)

RESEARCH OF VEGETARIAN AND WHOLE-FOOD PLANT-BASED DIETS

Evidence of the efficacy of the **whole-food plant-based (WFPB) diet** as an intervention is copious. As way of an introduction to the details of its wide-spectrum benefit that is to follow, it can unequivocally be stated available research concludes the WFBP det is not only superior to the Standard American Diet (SAD), but also to the '**anything except meat**' **vegetarian diet** (Ito et al, 2010, Ornish et al, 1990). For example, a large scale (almost 5 million person-years of follow-up) Harvard study, found a plant-based diet intervention reduced the risk of coronary artery disease (CAD), but *only* if healthful plant-foods (such as whole grains, fruits, vegetables, nuts, legumes, and oils) were selected rather than less healthy plant-foods (such as juices, sweetened beverages, refined grains, potatoes, French fries, sweets) (Satija et al, 2017). Further, dietary patterns with less animal products (e.g. vegetarian versus lacto-ovo vegetarian) appear to offer the greatest protection from obesity, hypertension, diabetes mellitus type 2 (DM-2), and cardiovascular disease (Le & Sabaté, 2014). These and like studies demonstrate that although eliminating animal intake is the centerpiece of vegetarianism, replacing meat with fatty foods (to include fried vegetables) and highly processed foods *negates* the omission of meat. In fact, unhealthy vegetarian (aka 'anything but meat') diets might even increase the risk of cardiovascular disease (Baden et al, 2019).

As we examine the numerous studies of the **WFPBD,** bear in mind that while some of the research utilized a treatment group (e.g., WFPB diet) and compared it to another group (e.g., a control group), many of the researchers utilized a **plant-based dietary index (PDI)** and the diets of the participants were analyzed in a retrospective survey. There is not a uniform PDI and each research group formulates the PDI to be used in their particular study and describes it in the methodology. In a simple two-part model for instance, **'healthy' plant foods** (e.g., whole grains, fruits, legumes, vegetables, vegetable oils, nuts, tea/coffee) received positive scores, and **less healthy plant foods** (e.g., 'anything except meat' vegetarianism such as refined and processed plant foods), and **animal foods** receive negative scores.

THE WHOLE-FOOD PLANT-BASED DIET (WFPBD) SAVES LIVES

Numerous studies have found compliance to a WFPBD, even a loosely defined vegetarian diet, significantly reduces **premature death** (e.g., Hever & Cronise, 2017; Kim et al, 2019; Kwok et al, 2014; Tuso et al, 2013). A recent publication, for instance, concluded adherence to the WFPBD caused a 18% to 25% reduction in **all-cause mortality** and a 32% reduction in **cardiac deaths** (Kim et al, 2019).

Application to physical therapy (PT): Should physical therapists just be educated in the WFPBD or well-versed? Be prepared to share your thoughts with your peers and faculty and dialog.

Obesity is not equally prevalent amongst various groups of people. Nor is it stagnant. Obesity amongst both genders has been steadily increasing. In men it has risen from 20% in 1994, to 32.5% in 2008, to 36% in 2016. For women, it rose from 25% in 1994, to 35.3% in 2008, to 40% in 2016. Refer to *Figure 6-2.9. Obesity in Men* and *Figure 6-2.10. Obesity in Women*. What factors might account for the progression and disparities?

Figure 6-4.9. Obesity in Men

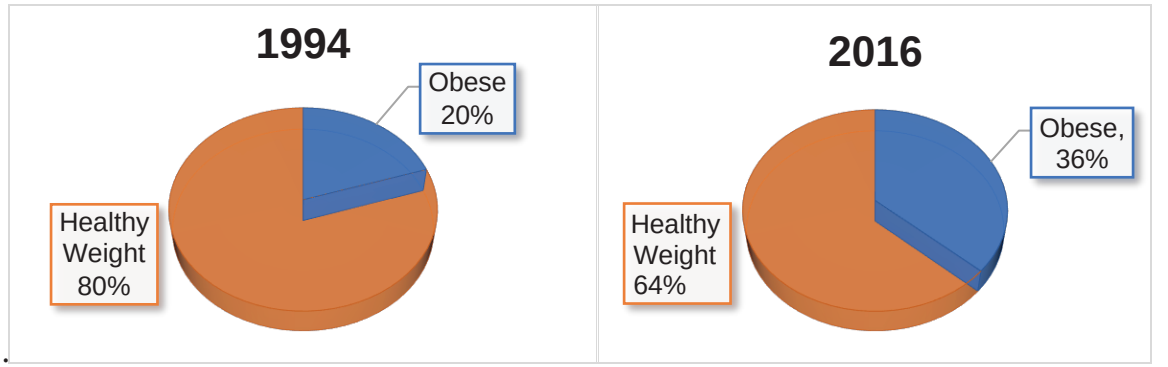
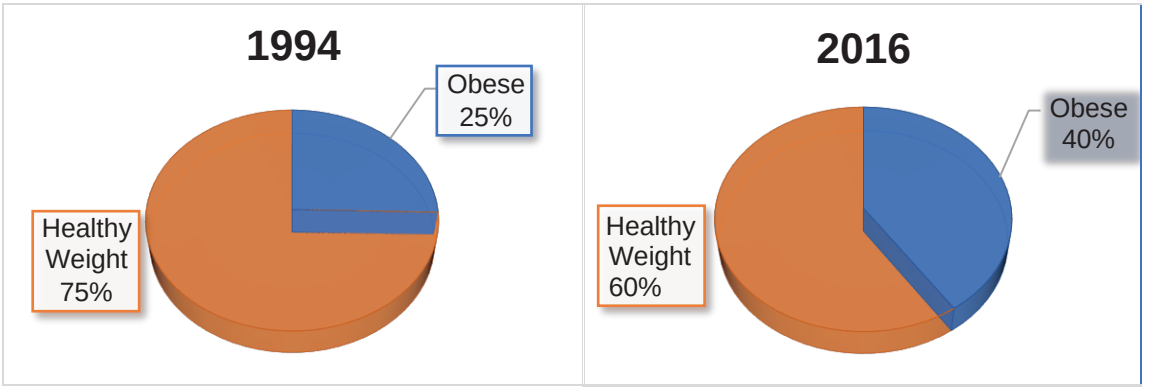
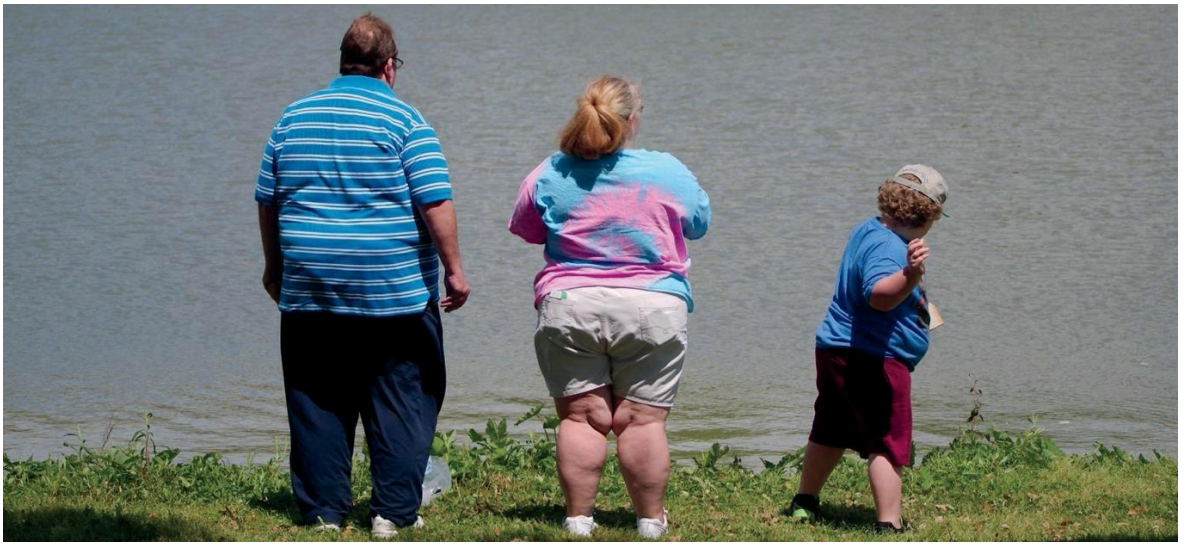


Figure 6.2.10. Obesity in Women





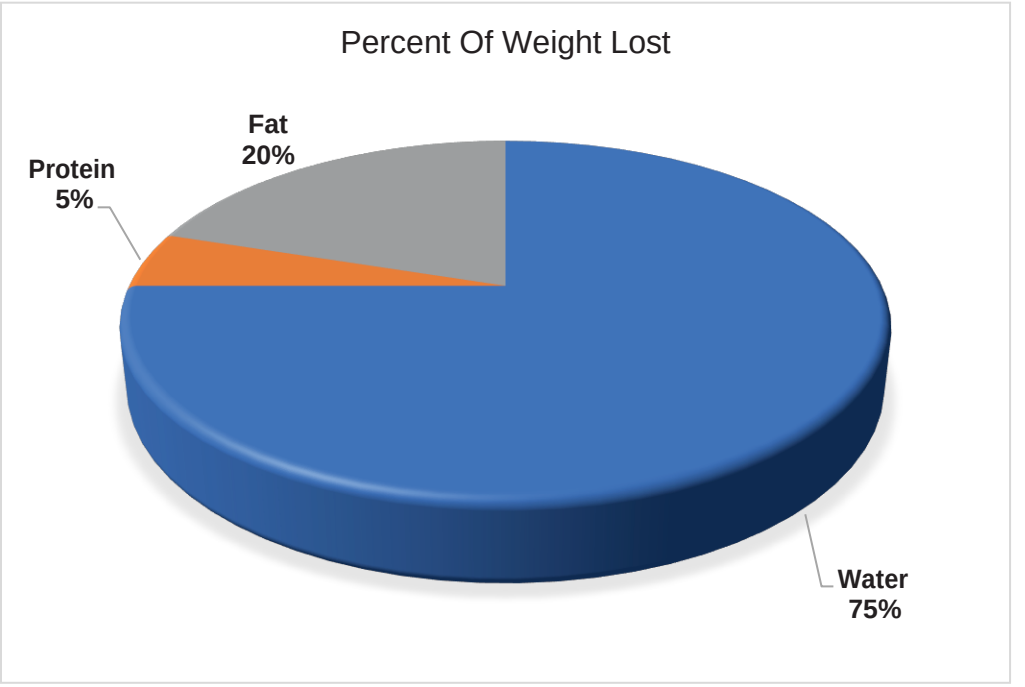
Chapter 6 - SECTION 6:
WEIGHT / FAT LOSS DIETS

The best diet is the one you don't know you are on.
Chris Powell (1978-)

WEIGHT / FAT LOSS

When a person starts a 'weight loss' diet, the early weight that is actually lost is primarily water. In week one of calorie restricted diet, the composition of weight loss is: 70% water, 25% fat, and 5% protein; in weeks 2 to 3, the composition of weight loss is 70% fat, 20% water, and 10% protein; and starting in week 4, the composition of weight loss is 85% fat and 15% protein (McArdle, et al, 2015). Refer to *Figure 6-6.1. Week 1 Composition of Weight Loss, Figure 6-6.2. Weeks 2 to 3 Composition of Weight Loss,* and *Figure 6-6.3. Week 4 and Beyond Composition of Weight Loss.* If carbohydrate intake is severely restricted then the glycogen stores are to compensate and this causes an even greater water loss. The time-specific composition of weight loss is why a person starting a diet loses a relatively large amount of 'scale' weight during the first week and significantly less weight starting by week four. After the initial 'high' of losing a lot of weight in week one, some dieters become frustrated and stop their new diet soon thereafter. By week 4 on a healthy calorie-restricted diet, the 'reference' man will lose about 2 pounds per week, and the 'reference' woman will lose about 1 pound per week. These numbers are greater in a morbidly obese person who continues to lose large amounts of weight for up to a month or more. Why do you think this is the case? How does weight loss affect BMR and how might this affect continued weight loss?

Figure 6-6.1. Week 1 Composition of Weight Loss



CHAPTER 7 - SECTION 1:
MENTAL ILLNESS

The only journey is the journey within.
Rainer Marie Rilke (1875 - 1926)

MENTAL ILLNESS vs SERIOUS MENTAL ILLNESS

A **mental illness** is a health condition involving changes in thinking, mood (emotion), and/or behavior that often - but no always - cause an adverse social or occupational impact if not also a functional impairment (Psychiatric Association [APA]; SAMHSA, 2020). The functional impairment, if present, can be mild, moderate, or severe. A 'less serious' mental illness, if not being appropriately treated, can present with a mild or moderate functional impairment. Examples of a mental illness are Acute stress reaction (F43.0) and Persistent depressive disorder (F34.1). A **serious mental illness**, if not being well managed, can cause serious functional impairment "which substantially interferes with or limits one or more major life activities" (National Institute of Mental Health [NIMH], 2019, para 4.) Examples of serious mental disorders are Schizophrenia (F20), Bipolar affective disorder (F31), Depressive disorder (F32) and Post traumatic stress disorder (PTSD) (F43.1). The World Health Organization (WHO) (2019) tends to 'cluster' diseases and illnesses by similarity of signs and symptoms, and mental health diagnoses (ICD-10 codes F0-F99) are no different. Refer to *Figure 7-1.1. Mental Disorder Clusters*

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Figure 7-1.1. Mental Disorder Clusters

ICD-10 code Clusters of Mental & Behavioral Disorders	Examples (ICD-10 code)
F0 Organic disorders	Dementia in Parkinson's Disease (F02.3) 2' Parkinson's (G20)
F1 - Mental and behavioral disorders due to psychoactive substance use	Mental & behavioral disorders due use of alcohol – acute intoxication (F10.0), Mental & behavioral disorders due tobacco dependence (F17.2)
F2 - Schizophrenia and delusional disorders	Schizophrenia (F20) Delusional disorders (F22)
F3 - Mood (affective) disorders	Bipolar affective disorder (F31) Depressive disorder (F33)
F4 - Neurotic, stress-related, and somatoform disorders	Panic disorder (F41.0) Generalized anxiety disorder (GAD) (F41.1) PTSD (F43.1), Grief (F43.21) Body Dysmorphic Disorder (F45.22)
F5 - Behavioural syndromes associated with physiological disturbances and physical factors	Anorexia nervosa (F50.0), Non-organic insomnia (F51.0), Abuse of non-dependence-producing substances (F55) eg, antacids, vitamins, herbal or folk remedies, steroids
F6 - Adult personality and behavior disorders	Specific personality disorder (F60), eg Dependent personality disorder (F60.7) Habit & impulse disorders (F63)

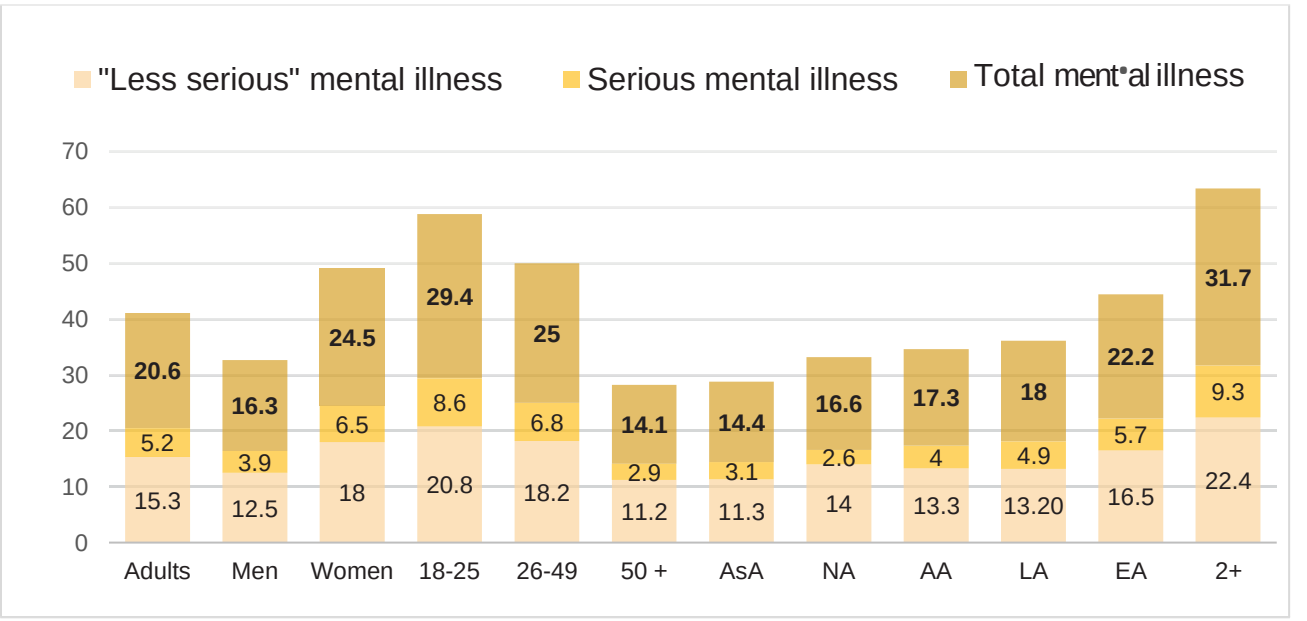
PREVALENCE OF MENTAL ILLNESS

According to the U.S. Department of Health and Human Services' Substance Abuse and Mental Health Services Administration (SAMHSA) (2020 Sep), 20.6% of USA adults have a *documented* mental illness diagnosis. It is more prevalent in women (24.5%) than men (16.3%) and decreases with age group: 29.4% of those 18 to 25, 25.0% for those aged 26 to 49, and 14.1% for those 50 years and older (SAMHSA, 2020). Prevalence of mental illness also varies by race: 14.1% for Asian Americans (AsA), 16.6% for Native Americans (NA), 17.3% for African Americans (AA), 18% for Latino Americans (LA), 22.2% for European Americans (EA), and 31.7% for mixed race Americans (2+) (SAMHSA, 2020 Sep). The prevalence of '**less serious**' mental illness among USA adults is 15.3%, more prevalent in women (18.0%) than men (12.5%), and decreases with age group: 20.8% of those aged 18 to 25, 18.2% for those aged 26 to 49, and 11.2% for those 50 years and older (SAMHSA, 2020 Sep). The prevalence of 'less serious' mental illness also varies by race: 11.3% for Asian Americans (AsA), 14% for Native Americans (NA), 13.3% for African Americans (AA), 13.2% for Latino Americans (LA), 16.5% for European Americans (EA), and 22.4% for mixed race Americans (2+).

The prevalence of **serious** mental illness among USA adults is 5.2%, more prevalent in women (6.5%) than men (3.9%), and decreases with age group: 8.6% of those aged 18 to 25, 6.8% for those aged 26 to 49, and 2.9% for those 50 years and older (SAMHSA, 2020 Sep). The prevalence of serious mental illness also varies by race: 3.1% for Asian Americans (AsA), 2.6% for Native Americans (NA), 4% for African Americans (AA), 4.9% for Latino Americans (LA), 5.7% for European Americans (EA), and 9.3% for mixed race Americans (2+) (SAMHSA, 2020 Sep). Refer to *Table 7-1.2. Prevalence of Mental Illness*.

Table 7-1.2. Prevalence of Mental Illness

as a percentage of USA adults in the year 2019 (SAMHSA, 2020 Sep)



Case 7-3.7. John

One of my real-life patient cases: John, a 67 y/o male, was referred to home health status post left below knee amputation (BKA) (Z47.81). His comorbidities included PTSD (F43.1), End-stage renal disease (ESRD) (I18.6), dependence on renal dialysis (Z99.2), diabetes mellitus (DM) with diabetic neuropathy (E11.40), among others. During the course of my examination, I learned his PTSD was secondary to trauma he suffered while serving in the Vietnam War. I screened his cognition with the Short Portable Mental Status Questionnaire (SPMSQ) (Pfeiffer, 1975). He scored 5 errors, which suggests a moderate cognitive impairment. I asked John if he thought he had any problems with his memory, and he rebuffed, "I answered these same damn questions for someone at the hospital and it's a stupid test! I have the best memory I have ever had in my lifetime!" Attempting to further discuss the SPMSQ (for instance, evidence of its validity) or the patient's cognitive deficit would have been counter-productive. However, it was indicated to notify the team, including the physician, and I did so after the physical therapy session, that is, outside of the patient's presence. The physician's nurse replied they are aware of his memory issues and his occasional angry outbursts. Accordingly, I refrained from again 'formally' screening his cognition. I addressed his deficit by providing a significant amount of repetitive patient education.

SOMATOFORM DISORDERS (F45)

One mental illness within this sub-cluster that might present as a diagnosed or undiagnosed comorbidity in physical therapy is **Body Dysmorphic Disorder** (F45.22). Body dysmorphic disorder is characterized by an extreme preoccupation with appearance to the extent that an any imagined or slight defect causes significant distress or impairment in occupational, social, or another area of functioning.

Application to physical therapy (PT): In his personal life, physical therapist Roberto is 'addicted' to body building and amino acid supplements. His exercise program is grueling and he is 'ripped.' Still, he is never quite satisfied with his physique. Also, his relentless workout schedule added to his full-time career limits his free time and his girlfriend occasionally threatens to break-up with him because he 'never have any time' for her. Whether or not his signs and symptoms are at the level at which a physician / psychiatrist would diagnose him with body dysmorphic disorder is beyond the scope of this example, but Roberto would need to be mindful not allow his dedication to his physique to cloud his clinical judgement related to the status and goals of his physical therapy patients.

CHAPTER 8 - SECTION 1:
GENDER IDENTITY AND HOMOSEXUALITY

Openness may not completely disarm prejudice, but it's a good place to start.
Jason Collins, first openly gay athlete in USA professional sports (1978 -)

Provision of Care to LGBT Patients

According to a recent Gallup poll, 4.5% of USA adults self-identify as lesbian, gay, bisexual, transgender (LGBT), including 5.1% of women and 3.8% of men (Newport, 2018). Compared to heterosexuals, these 9.5 million LGBT individuals experience higher rates of poverty, homelessness (Rowe et al, 2017), and health disparities, notably substance abuse (Herek et al, 2007) – including alcohol (Hughes, 2005), psychiatric disorders (McLaughlin et al, 2010) - particularly depression (Rowe et al, 2017), and suicide (Remafedi et al, 1998). These disparities are linked to social stigma and discrimination (ODPHP, 2020-l). Amongst heterosexual health care providers, preferences (especially implicit compared to explicit) for heterosexuals over homosexuals (especially gay men) are pervasive (Sabin, et al, 2015). Transgender prejudice is worse. For instance, 19% of transgender individuals report they are refused care because of their transgender, and 28% postpone seeking medical care because they have previously been harassed in a health-care setting (Grant et al, 2011). When care to LGTB patients is not outright abusive, health-care providers tend to lack LGTB cultural competence (Landry, 2017; Rowe et al, 2017).

A component of best practice is to communicate in an inclusive manner, such as with open-ended neutral questions (Landry, 2017; Rowe, 2017). For example, on intake questionnaires, ask for 'Preferred name' and 'Preferred pronoun.' And during verbal communication, 'Do you have a partner or spouse?' is more inclusive than 'Do you have a wife/husband?'

Application to physical therapy: When a physical therapist treats a patient with a different sexual orientation, she must not allow any biases she may have to interfere. If he is not capable of this it is his duty to recuse himself and refer the patient to a physical therapist who is not biased. Do you agree or disagree and why?

LGTB-related Diagnoses

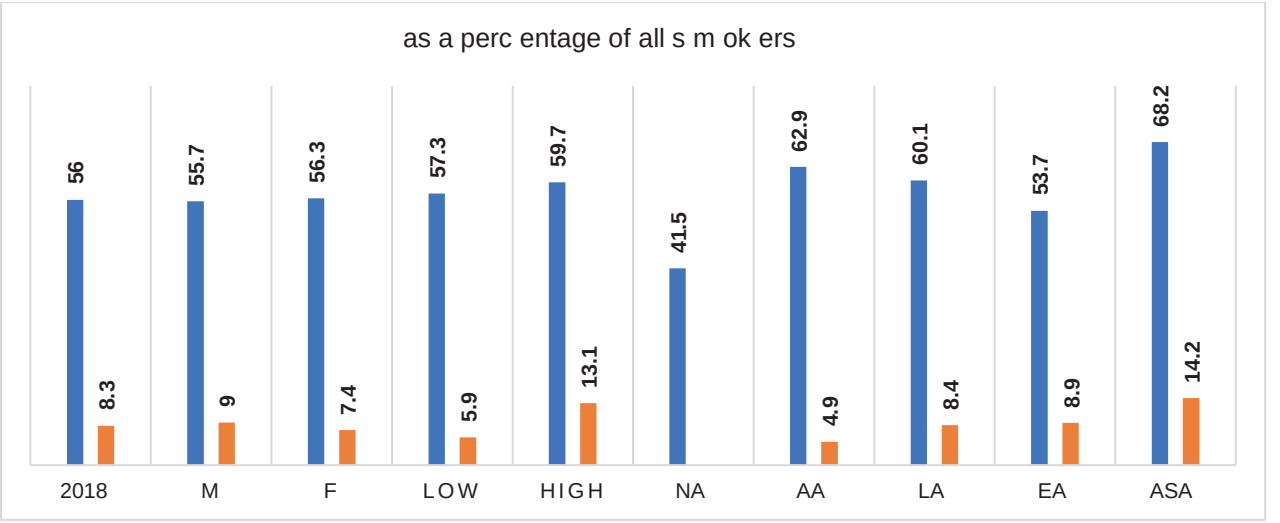
Perhaps part of the reason LGTB individuals suffer more health disparities is because homosexuality has been wrongly perceived as a mental illness. In the current and all prior editions of the Diagnostic Statistical Manual (DSM) of the American Psychiatric Association (APA), homosexuality has been labeled with the ICD-10-CM code F66, but it will not be included in the next edition (APA, 2009; Cochran, 2014). The World Health Organization (WHO) has already deleted the ICD code from their data base (CBSNews; 2019-AM). Instead, gender identity and sexual preference are simply stipulated, as is for instance race / ethnicity. The ICD-10 codes that identify psychological and behavioral disorders associated with sexual orientation will rightly remain. Examples include F66.0 Sexual maturation disorder. i.e., the individual presents with anxiety or depression because s/he is uncertain of his or her identity; F66.1 Egodystonic sexual orientation, i.e., the individual's sexual preference or gender identity is not in doubt, but s/he wishes it were different; (Cochran, 2014). However, these diagnoses mirror disorder pro-vided for heterosexual persons who present with similar psychological and behaviors disorders.

measured in the low to mid 80s!

Although the proportion of USA adult smokers who attempted to quit smoking increased from 50.2% in 2008 to 55.7% in 2018, it is far short of *Healthy People* short term goal of 80% (ODPHP, 2020 TU-4.1). According to their data, smoking cessation attempt (within the past 6 months to 1 year) was 6% in 2008, 6.2% in 2010, 6.9% in 2012, 7.6% in 2014, 7.6% in 2016, and 8.3% in 2018 (ODPHP, 2020 TU-5.1). As expected, there are differences between categorizes of people. For differences between the groups of adults, again refer to *Table 9-1.3. Smokers who Attempt to Quit and their Success Rate, by Gender, Income, and Race/Ethnicity* and *Table 9-1.4. Smokers who Attempt to Quit and their Success Rate, by Age and Educational Level.* Increasing smoking cessation attempts is a worthy target, but the more important goal is smoking cessation success. *Healthy People's* "developmental" LHI is TU-4.2., which is to increase smoking cessation attempts using evidence-based strategies by adult smokers. As of the date of this publication, the methodology has not been made available. To check on the current status, you may visit:

https://www.healthypeople.gov/2020/data-search/Search-the-Data#topic-area=3510;

Table 9-1.3. Smokers who Attempt to Quit and their Success Rate, by Gender, Income, and Race/Ethnicity



Key: M = male, F = female, Low = low income, High = high income, AA = African-American, LA = Latin-American, EA = European-American, AsA = Asian-American.

INTERACTIONS

Nearly 25% of USA adults report concurrently taking a prescription medication with a dietary supplement (Asher et al, 2017). As we have discussed elsewhere, supplements can negatively interact with medications. Data published in *JAMA* show that at least one in 25 older adults (estimated 2.2 million people) use a medication regimen posing a risk of a major potential drug to drug interaction (Qato et al, 2008); half of these potential interactions involved the use of non-prescription medications. This is roughly 1 in 50, or 1.1 million older adults at risk due to supplement-drug interactions (Qato et al, 2008). Further, 50% of the vitamins and minerals popular with USA adults take can be harmful at high doses (USDA, 2015).

While the majority of prescription and non-prescription medication interactions are from dietary supplements of vitamins and minerals (Qato et al, 2008), but botanicals / herbs and even everyday foods are not free from complications. A notable example are anticoagulant medications, such as warfarin (Coumadin) and even aspirin, which 'thin the blood' and thereby reduce the risk of a DVT (deep vein thrombosis) and stroke. Anticoagulants, however, have a very narrow therapeutic range, and are thus at high risk to be adversely affected by supplements or even foods high in Vitamin K, such as green leafy vegetables (e.g., collards, kale, romaine, spinach, turnip greens) and cruciferous vegetables (e.g., broccoli, Brussels sprouts, cabbage, cauliflower), decrease the therapeutic effects of anticoagulants. In contrast, certain herbs such as garlic, ginger, and turmeric can increase the therapeutic effects of anticoagulants and can increase the risk of bleeding.

Application to physical therapy: Your patient is taking the medication warfarin. One day, he decides to start taking a daily aspirin because his friend suggested it. In this scenario, you should educate the patient he should not start any new medication, even an OTC one, without first checking with his physician. Next, you notify the patient's physician who, would in this situation, confirm the patient should not take aspirin, which you would in turn relay to the patient. You would also teach the patient that taking another anticoagulant, such as aspirin or ibuprofen, could cause him to bleed. As a community service, physical therapists can notify the U.S. Food and Drug Administration (FDA) of observed or reported adverse events for human medical products to the at the MedWatch Voluntary Support for Health Care Professionals. Refer to *Online Link 10-3.5.Medication Voluntary Report.*

Online Link 10-3.5. Medication Voluntary Report

https://www.accessdata.fda.gov/scripts/medwatch/index.cfm?action=professional.reporting1

CHAPTER 11 - SECTION 3: ACUPRESSURE

"The American Physical Therapy Association supports the continued use of evidence-based complementary and alternative therapeutic interventions."
APTA, 2018 Aug, para 1

ACUPRESSURE

Unlike acupuncture, acupressure is within the scope of physical therapist practice. In fact, many physical therapists (notably those in outpatient clinics) integrate acupressure into their provision of care. Unlike acupuncture, acupressure is non-invasive. It can also be taught to patients for their self-treatment as part of a home program.

Despite the differences, acupressure mirrors acupuncture in at least one important way: they are both based on the belief that Qi flows through the body in meridians. Practitioners of acupuncture and acupressure support the notion that restriction of the flow of Qi at certain points along the body produce an imbalance causing illness, but balance can be restored with manual pressure. **Acupressure**, therefore, is the applied manual force on acupoints of the body in an attempt to move Qi and restore health. The specific application of force and duration varies, and is adjusted by the practitioner. As a general guideline, however, the force is firm but tolerable and the duration is about 2 to 3 minutes.

Purportedly, acupressure relieves a wide array of ailments. However, of the research that has been performed, there are often methodology weaknesses including significant risk of bias. Most investigations, reviews, and meta-analyses of acupressure conclude with a call for more rigorous trials (e.g., Lee & Frazier, 2011; Song et al, 2015; Yeganeh et al, 2017).

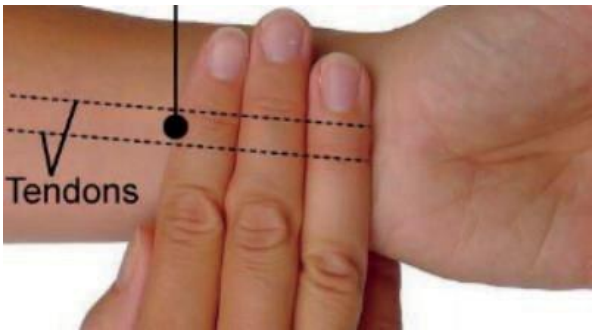
ACUPOINT P6: NAUSEA / VOMITING

There is evidence that acupressure to P6 reduces nausea, menstruation pain (Blöd et al, 2018), duration of labor and rate of cesarean rate (Makvandi et al, 2016), nausea and vomiting in early pregnancy (Adlan et al, 2017), chemotherapy-induced nausea and vomiting (Genc & Tan, 2015).

It is speculated that active human application of acupressure is superior to the passive application by bands (e.g., Sea-bands® and other wrist bands) or mats, but this is not widely supported in the literature. Moreover, Sea-Bands® and other wrist bands apply constant pressure to acupoints, can be worn for an indefinite period of time, and require little management from a patient or clinician.

Application to Physical Therapy: You are an outpatient physical therapist treating a pregnant female for a shoulder injury. She had been progressing well but has recently started to cancel most of her appointments due to pregnancy-related nausea. And even when she does make it in for a physical therapy session, she is not able to fully participate. What do you do when she next visits?

Location of Acupoint P6 (Nei guan): forearm supinated - on the medial side of the flexor carpi radialis tendon, two ***cun**** (~three fingers breadth) proximal to the wrist.



EFFICACY OF CUPPING

Benefits of cupping, if any, are not permanent. Generally, they do not persist more than six months (Leggit, 2018). Of the cupping research that has been published, there is a lack of defined cupping treatment protocols has resulted in little uniformity in the literature. This is perhaps one of the reasons why cupping research is often deemed to be of low-quality, particularly by practitioners of western medicine. However, there are other reasons why favorable evidence of cupping is determined to be of low-quality (again, notably in western medicine), and these include small sample sizes, lack of a control group, potential bias of the researchers or the participants. The methodology of research related to cupping is also questioned.

Cao and colleagues (2012) performed a meta-analysis of randomized controlled trials (RCTs) investigating the therapeutic effect of cupping. They found the frequency of the types of cupping used in the trials were wet cupping, retained cupping, moving, moving cupping, and flash cupping, in that order. Diseases for which cupping was most often used to treat are acne, Bell's palsy, cervical spondylosis, cough and dyspnea, herpes zoster, lumbar disc herniation. Although the researchers determined a majority of the studies were of low methodology quality, cupping combined with other TCM interventions provided significantly more benefits than the other TCM treatments alone. Moreover, there were no adverse effects. Cupping has also been found to be efficacious in the relief of plantar fasciitis (Ge et al, 2017), chronic cervical and lumbar pain (Yuan et al, 2015), and as effective as benzodiazepine in the treatment of insomnia (Feng, 2019).

A meta-analysis of the use of cupping by amateur and professional athletes concluded similarly: "No explicit recommendation for or against the use of cupping for athletes can be made" (Bridgett et al, 2018. P208). In short, despite Michael Phelps, the winner of the gold medal in the men's 200-meter butterfly at the 2006 Summer Olympics, who photographs before and after the victory evidenced obvious signs of cupping therapy, it is unknown whether the cupping treatment he received to enhance his performance contributed to him earning the gold medal. Phelps, however, maintains otherwise (Cobian & Heidersheit, 2016).

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CUPPING AND CERVICAL PAIN

Kim and colleagues (2018) performed a review and meta-analysis of randomized controlled trials (RCTs) on the effect of cupping on cervical pain. Compared to the control (sedentary) group and the active (exercise) group, those who received cupping benefited from reduced pain and improved function. Compared to the active groups, the groups receiving active and cupping treatment, achieved a significant reduction in pain ($p=0.0009$) and improved quality of life (QOL) ($p=0.001$). The adverse side effects of the cupping were rare, mild, and temporary. The authors concluded, however, that despite the positive effects of cupping, both alone and when added to active treatment, could be strongly argued because of the low-quality of the research methodologies of the studies. It suggested well-designed studies are needed.

CUPPING AND LUMBAR PAIN

Wang and colleagues (2017) performed a meta-analysis of six randomized controlled trials (RCTs) on the effect of cupping on lumbar pain. The results found cupping is superior to no treatment (control groups) in terms of VAS scores and ODI scores, but there was no statistical difference between the groups respective MPPI scores. There were no reported adverse effects. The authors added, however, the risk of bias and high heterogeneity and limit the authenticity of the results.

Tai Chi Chuan (one type of the many varieties of Tai Chi) includes gentle rhythmic movements, such as slight knee bending, forward and backward strides, turning around while shifting the center of gravity, and maintaining the below the shoulder level; and involves use of large muscle groups which, when hypertrophied, are more metabolically active can assist in weight and fat loss (of overweight people) and reduce the severity of knee osteoarthritis (OA) – as was found during a 24-week, 24-movement intervention in the 2016 systematic review meta-analysis of Chang and colleagues. In as early as 12-weeks, Tai Chi Chuan program significantly reduces BMI, triglyceride, and cholesterol in obese patients who present with diabetes mellitus (DM) (Cheng et al, 2016). And in an as early as 8 weeks of Tai Chi Chuan, patients with knee pain present with significantly reduce pain (as measured with the WOMAC), improved balance and gait (as measured by a 12% increase in the 'Timed-Up-and-Go' or TUG test), and an 11% increased ability on a stair climb test (Chang et al, 2016). Chang and colleagues (2016) suggested, however, that to continue to achieve benefit of Tai Chi Chuan, the number of cycles and durations must be increased, similar to the continuance of aerobic exercises. (Of course, all patients will eventually achieve their 'maintenance' level of intensity and duration of physical activity. They concluded Tai Chi can improve the mind-body health of patients with knee osteoarthritis who present with a variety of comorbidities including obesity, high-cholesterol, and high triglycerides, and further, can somewhat prevent the occurrence of disorders with lumbar vertebrae and disc degeneration.

Lan and colleagues (2013) performed a systemic review of research using tai chi as an intervention with the parameters meeting the American College of Sport Medicine (ACSM) guidelines for individuals with hypertension (HTN), which are: aerobic exercise on most if not all days of the week and strength training 2-3 days/wk; moderate intensity (i.e., 40-60% heart rate reserve) aerobic activity and moderate intensity resistive training (60-80% one repetition maximum); 30-60 min/day of aerobic exercise and strength training of 8-12 repetitions of each major muscle group. The tai chi intervention resulted in a 5-7 mmHg reduction in blood pressure in those who initially presented with HTN. The authors concluded that Tai Chi can be an alternative exercise modality for patients with cardiovascular disease including HTN. Lan's (2013) review also provided data showing tai chi provides benefit to those with DM. In an 8-week Tai Chi program, blood glucose was less and insulin receptor and binding capacities were improved (Lan et al, 2013). In another study in their review, they found a 14-week tai chi intervention significantly lowered glycated serum proteins and fasting plasma glucose along with higher fasting plasma insulin (Lan et al, 2013). Similarly, In the previously cited meta-analysis, Pokorski and Suchorzynska (2018) concluded Tai Chi meditation significantly enhanced mood and 'openness to experience,' which can improve ability to cope with stress. Tai Chi has also been found to reduce both anxiety and depression (Wang et al, 2014).

CHAPTER 13 - CASE SCENARIO 1: ROSE

Setting: Home Health in Oakland, California

- **PCP**: Layne Myers, MD. **Insurance**: Medicare A&B
- **Demographics**: 72 y/o **(**DOB: 8.4.1948), female, Asian-American, married, heterosexual, retired
- Height: 5'2", weight 132 lbs
- **Referral**: Hospitalist physician following 3 days acute care 2' Pneumonia (J18.9)
- **Diagnoses**: UTI (N39), Muscular weakness (M62.81), Difficulty in walking (R26.2), HTN (I10), DM-2 (E11.9)
- **Undiagnosed**: Hypochondriasis (F45. 21)
- **Medications**: amlodipine 5mg; ciprofloxacin 250g, every 12 hrs for 7 days; Metformin 500mg with breakfast and 500mg with dinner; OTC Tylenol, 200mg, 2 tabs, every 6 hrs, PRN for pain
- **Self-medicating drugs**: Unknown
- **Diet**: Unknown
- **Exercise**: Sedentary
- **Learning style**: Unknown
- **Religion**: Buddhist (non-practicing)

- **PLOF**: Mobility with modified independence (decreased cadence, uses handrail on steps, etc)

Current Status:

A&Ox5. Temp 99.1. HR 80, Resp 20, BP 130/70, 02 sat 95%.
Pain: "all over" VAS: 10/10, constant, dull, ache
Pain management: OTC Tylenol, 200mg, 2 tabs, every 6 hrs, PRN
ROM: WFL except B ankle dorsiflex 0 deg
Muscular strength: grossly 3+/5 to 4-/5 all within available ROM (varies joint to joint)
Transfer (sit to/from stand): SBA, VCs for safety
Gait: distance unknown, at least 50 ft, FWW, CG, VCs for safety (gait deviations: decreased cadence, decreased B foot/ankle subphases, forward head, B abducted scapulae)
TUG: 32 sec

Subjective from patient Rose and her husband Tom:

Rose: "I was sure I had the COVID-19, but the hospital told me it was pneumonia. They said they tested me for COVID-19 but it was negative. I think they might be wrong. I've heard so many people have died from this virus. I don't know what to do. My husband says everything is okay, but I just feel something is wrong."
Tom: "She measures her blood sugar 10 times a day. Don't you think that's excessive?"
Rose: "Well, I have to, I have to make sure my blood sugar is okay!"
Tom: "My wife is very anxious, isn't there something you can teach her to relax?"

Holistic physical therapy:

- What demeanor would you utilize with this patient?
- What is the patient's BMI? Would you assess her body composition? Why or why not? If yes, with which method?
- 'Flesh out' the particulars of this patient, examples:
    - what is her 'learning style?'
    - what medications have perhaps been ordered for the diagnoses provided and which do you assign her to be compliant?
- What screens would you perform and why?
- Are any referrals indicated? If so, to whom?
- What goals might be appropriate for this patient?
- In addition to more 'mainstream' physical therapy interventions, what additional interventions might you suggest and how would you do so? Provide details of the interventions.

CHAPTER 13 - CASE SCENARIO 9: KAI

Setting: Outpatient Clinic in New York City, NY

- **PCP**: Trish Conner, DO. **Insurance**: Aetna Plus
- **Demographics**: 24 y/o **(**DOB: 5.18.96). Gender: Transgender. Patient declines to identify her race/ethnicity or sexual orientation. Marital status: single
- Height: 5’9”, weight 146 lbs
- **Occupation**: Kava Barista
- **Referral**: Evaluation and treat
- **Prior setting**: ER
- **Diagnoses**: Skateboard accident (V00.13), ankle sprain (S93.401A)
- **Undiagnosed**: Suicide ideation (R45.851)
- **Medications**: OTC Tylenol, 200mg, 2 tabs, every 6 hrs, PRN for pain; OTC CBD 250mg BID
- **Self-medicating drugs**: Unknown
- **Diet**: Whole-food plan-based diet
- **Exercise**: Skateboards daily, otherwise unknown
- **Learning style**: Audio-visual / Experiencing
- **Religion**: Atheist

- **Living Situation**: Lives with roommate
- **Pet**: Dog – Boo
- **PLOF**: Independent mobility

Current Status:

A&Ox5. Temp 98.7. HR 68, Resp 18, BP 118/68, 02 sat 99%.
Pain: R ankle VAS: 2/10 to 5/10, sharp; R ankle edema and ecchymosis
ROM: WFL excluding R ankle, which is limited
Muscular strength: grossly 4+/5 – 5/5, excluding R ankle, which is limited
Transfer (sit to/from stand): SBA, VCs for safety
Gait: 50 ft without fatigue, B crutches, SBA and VCs for safety

Subjective from Kai:

"Well, I really gotta get this ankle fixed so I can get back to work. How long will it take?"

Holistic physical therapy:

- What demeanor would you utilize with this patient?
- What is the patient's BMI? Would you assess her body composition? Why or why not? If yes, with which method?
- 'Flesh out' the particulars of this patient, examples:
    - what is her 'learning style?'
    - what medications have perhaps been ordered for the diagnoses provided and which do you assign her to be compliant?
- What screens would you perform and why?
- Are any referrals indicated? If so, to whom?
- What goals might be appropriate for this patient?
- In addition to more 'mainstream' physical therapy interventions, what additional interventions might you suggest and how would you do so? Provide details of the interventions.

The guidelines and format of a support group vary widely from group to group. Many, but not all, start with one member sharing their feelings or experiences related to the focus of the support group, and then each member being offered the opportunity to do the same. Verbal communications, however, are essentially never required. In certain instances, the facilitator may be required to intercede so a support group member does not unknowingly monopolize the time. Some organizations provide a suggested meeting format, an example of which is found at *Online Link 14-2.1. AA Suggested Meeting Format*. Some support groups open or close with a 'tradition,' for instance, standing in a circle and holding hands at the end of each meeting and all saying "we can do this together."

Support groups can be face-to-face or online. Online support groups have been found to be of much benefit to the family caregivers of those with debilitating conditions who might not otherwise be able to participate in a support group (Friedman et al, 2018).

Online Link 14-2.1. Suggested Meeting Format

https://aasfmarin.org/suggested-meeting-format

Application to physical therapy (PT): A physical therapist can refer a physical therapy patient to a support group or serve as a 'guest speaker' at an on-going support group, for instance, one for people who suffer grief, have Multiple Sclerosis, or care for a loved one with Parkinson's disease. A physical therapist guest speaker might provide exercise guidelines and discuss the benefits of exercise on the condition for which the support group has been established. Or, the physical therapist might provide educational guidelines regarding body mechanics and ergonomics to the members of a support group who provide care to a loved with a debilitating condition.

SUPPORT GROUP ASSIGNMENT

Locate a local support group and be accepted to serve as a guest speaker about exercise or another topic, as appropriate. Gather research related to the support group's condition (e.g., depression) and prepare an outline of your contribution. The formal presentation should be brief, approximately 10 to 15 minutes, to allow time for subsequent group interaction. Integrate teaching and learning strategies, such as hand-outs to distribute. An alternative project is to contribute to 'mock' support group, with your fellow-students as mock support group participants. Another alternative is to contribute to a real or mock online support group. In any case, you can self-select the type of support group or one can be assigned to you by faculty. But whatever setting and format is chosen, bear in mind the basic tenents of a support group. Another alternative is to simply attend a support group meeting as a guest. This is a common requirement among students of other health care professions. But do obtain permission from the group facilitator first!

There are no 'official' rules for what a website must include or exclude, but a variety of individuals and organizations offer their suggestions. The following are a compilation of Devaney (2017) and Sharpened (2019) and others' **Website Building Guidelines**:

- a simple and uncluttered overall look and feel of the website;
- navigation should be simple and intuitive;
- consistent feel – website should not change every time a person visits it;
- appropriate choice of color;
- responsive to various devices including computers, smartphones, tablets;
- friendly on all major browsers including google, firebox, safari;
- a maximum of 3 font types;
- create a visual hierarchy – what is most important should stand out;
- visuals (photos, videos) and special effects as indicated to enhance interest;
- conventional set-up such as main navigation at the top or left side of the page, clickable tabs including one to return to the homepage;
- tailor your verbiage to your target audience, which is often a mixture of age groups, racial/ethnicities, etc.
- avoid small text that is difficult to read, especially if the background is a dark color.

HOLITIC PHYSICAL THERAPY WEBSITE

To demonstrate their knowledge of holistic physical therapy and practice building a website, each student self-selects or is assigned a diagnosis or comorbidity encountered by physical therapists. Examples are Alcohol abuse (Binge drinking), Alcohol dependence (Alcoholism), Alzheimer's disease, Bipolar affective disorder, Body dysmorphic disorder, Cigarette nicotine dependence, Chronic obstructive pulmonary disease (COPD), Congestive heart failure (CHF), Complex regional pain syndrome (CRPS), Constipation, Coronary artery disease (CAD), Diabetes Mellitus Type 2 (DM-2), Fibromyalgia, General anxiety disorder (GAD), Grief, Hyperlipidemia, Hypertension, Major depressive disorder, Morbid obesity, Obesity, Osteoarthritis (OA), Osteoporosis, Parkinson's disease, Posttraumatic stress disorder (PTSD), Pregnancy, Rheumatoid arthritis (RA), Situational depression, and Urinary incontinence. The purpose of the website is not to provide an extensive presentation of what physical therapists already know (or should know) about the diagnoses, but – after providing a review of the basics, provide information that will enhance their holistic understanding of the diagnosis / comorbidity including holistic interventions.

HOLITIC PHYSICAL THERAPY WEBSITE EXAMPLE

The name of the website "Holistic Physical Therapy and 'name of the diagnosis or topic." For example, "Holistic Physical Therapy and HTN" or "Holistic Physical Therapy and COPD."

The student creates 8 pages: a **Home** page, a **Case Scenario** page, a **Stage of Change** page, a **Medications** page, three pages of distinct complementary interventions, and a **References** page. Refer to *Figure 15-2.3. Holistic PT for HTN Website.* The **Home** page provides the basics of the diagnosis / comorbidity, that is, an abbrevi-ated review of what a physical should know about the diagnosis as it pertains to physical therapy. The **Case Scenario** page provides a brief case scenario of a physical therapist providing holistic physical therapy to a patient with the diagnosis / comorbidity. The **Stage of Change** page provides a creative application of the change model. For example, appropriate diagnostic screens and examinations; interventions to advance the patient from the stage of incognizance to the stage of contemplation; interventions to advance the patient from the stage of contemplation to the stage of compliance. A **Medications**