

# WELLNESS PROGRAMS

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Health Behavior Change & Maintenance Programs  
based in Neuropsychology & Behavioral Psychology

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# Introduction

- Education & Background
  - Psychology, Lifestyle, Nutrition & Wellness
    - Neuropsychology & Behavioral Psychology
    - Health Education – Adult Weight Management
  - HIPAA, Ethics and Law, History, Exam, Diagnosis & Documentation
    - Compliance Officer – Life West Health Center
  - Certified Ergonomist
    - Ergonomic Evaluations
    - Ergonomic & Workplace Safety Trainings
- [www.MichelleJMassa.com](http://www.MichelleJMassa.com)

# Housekeeping

- Bathrooms
- Breaks
- Continuing Education hours
- Teaching style & format

# Goals & Objectives

- Review the history, components and elements of health behavior change and health behavior change programs
- Cover neuropsychological & behavioral psychological roots of health behavior change models
- Provide structure and components to developing an effective wellness program in your practice

# Overview

- Wellness & Maintenance Programs
- Neurophysics of Behavior Change
- Behavioral Psychology
- Behavior Change Models
  - Classical Conditioning
  - Operant Conditioning
- Setting and Tracking Goals
- Wellness Programs for your Practice

# WELLNESS & MAINTENANCE PROGRAMS

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# Wellness Doctor

- Whether a patient comes in as a wellness patient or they are transitioning into wellness (after acute and/or corrective care), as chiropractors we can develop a specific wellness plan for them.
- How are your Wellness or Maintenance programs in your office structured?

# Wellness Doctor cont.

- Benefits of creating a specific wellness plan/program
  - Keeps their care plan fresh, new and innovative
  - Allows them to continue to grow and flourish within your practice
  - Aids in patient retention
  - Instills empowered personal responsibility rather than a victim mindset
  - Allows the patient to be an active participant in their care plan

# Focus on Health Behaviors

- Up until the mid-20<sup>th</sup> century public health threats were mainly from infectious & communicable diseases.
- In developed countries a shift occurred in the past 100 years whereby **major threats are posed by diseases in which lifestyle** plays a role (Frieden 2010).

# Health Enhancing Behaviors

## Health Behaviors

- Actions that enhance, maintain or threaten an individual's health
- Can be positive or negative
  - Food choices
  - Eating in moderation
  - Not driving under the influence
  - Brushing teeth
- Health *habits* are practiced daily
- A cluster of health *habits* is called a *lifestyle*

# Health Enhancing Behaviors

- What factors do you think influence an individual to engage in healthy or unhealthy lifestyle?
- Does an individual choose his/her lifestyle?

# Health Enhancing Behaviors

- Is **will power** alone sufficient to ensure that an individual will cease a harmful behavior or commence a positive one?
- Is **knowledge** alone sufficient to ensure that an individual will cease a harmful behavior or commence a positive one?

# Motivating Change

JarOfQuotes.com

IT'S NOT THAT  
SOME PEOPLE HAVE  
WILLPOWER AND  
SOME DON'T. IT'S  
THAT SOME PEOPLE  
ARE READY TO  
CHANGE AND OTHERS  
ARE NOT.

# BEHAVIORAL PSYCHOLOGY

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# Behaviorism

- Behaviorism is a school of psychology that takes the objective evidence of behavior and measured responses to stimuli.
- Behaviorism does not take into consideration the concept of the unconscious mind, even if it can be argued that behavior to some level can be the result of a non-conscious decision.

# Learning Theories

- **Classical Conditioning** (Pavlov)

Stimulus/Response

- **Operant Conditioning** (Skinner)

*Rewards* contribute to whether or not a response will be repeated or extinguished

# Learning Theories

- **Observational Learning** (**Bandura**)

It is not the learner who is being rewarded but rather the learner *observes the other person being rewarded* and **learns vicariously** through this.

- Important in children – it is easier to influence a behavior while it is being acquired rather than changing an established behavior



# Classical Conditioning

- **Classical Conditioning**

- Involves placing a neutral stimulus (signal) *before* a response (reflex)
- Focuses on involuntary, *automatic* behaviors
- Learn to associate two different stimuli. **No behavior is involved.**
  - The **unconditioned stimulus** is the first stimulus that you encounter.
  - An **unconditioned stimulus** produces a **response without any previous learning.**
  - This response is called an **unconditioned response.**



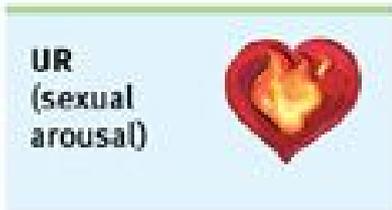
# Classical Conditioning cont.

- **Kiss Example of Unconditioned Response**

- Kissing creates **involuntary arousal** responses and causes you to experience an elevated heart rate, for example.
- This is a **natural** response, it is not learned, and it happens **automatically**.
- The **unconditioned stimulus** in this example is the **kiss** and an **elevated heart rate** is the **unconditioned response**.

# Classical Conditioning cont.

- A neutral stimulus is added to the experience which is not associated with the unconditioned response.
  - Imagine that your favorite song is playing when you kiss. The song will be the neutral stimulus.
  - When the song is paired with kissing, your heart rate still increases because of the kiss.
  - After repeated pairing of your favorite song with the act of kissing your brain will start to think, 'I hear my favorite song so kissing will happen soon!'
  - Result: A conditioned response following the song because the song would not produce the elevated heart rate if it were not associated with the act of kissing.



# Operant Conditioning

- **Operant Conditioning**

- Involves applying **reinforcement or punishment** after a behavior
- Focuses on strengthening or weakening **voluntary** behaviors
- **Kiss Example**
  - What would happen if...?
  - The person puts their arms around you and **kisses you back** enthusiastically. (It would probably increase the likelihood that you would seek another kiss from the person.) → **Positive Reinforcement!**
  - When you attempted the kiss, the person becomes angry and **pushes you away**. (It would probably decrease the likelihood that you would seek a kiss from the person again.) → **Punishment**

# Reinforcement v Punishment

- When thinking about **reinforcement**, always remember that the end result is to try to increase the behavior
  - Used in Health Behavior change
  - Increase a positive behavior
- Whereas **punishment** procedures are used to decrease behavior
  - Not as effective in Health Behavior change
  - Rather than trying to STOP a detrimental health behavior, instead guide the individual to focus on CREATING a positive health behavior

# Reinforcement

- **Positive reinforcement** *presenting* a motivating/reinforcing **stimulus** to the person after the desired behavior is exhibited making the behavior more likely to happen in the future.
- **Negative reinforcement** when a certain **stimulus** (usually an **aversive stimulus**) is *removed* after a particular behavior is exhibited.
- The likelihood of the particular behavior occurring again in the future is increased because of removing/avoiding the negative consequence.
  - Not to be confused with punishment!
  - Reinforcement always increases the occurrence of a response, while punishment always decreases the occurrence of a response.

# Positive v Negative Reinforcement

- For positive reinforcement, think of it as adding something positive in order to increase a response.
- For negative reinforcement, think of it as taking something negative away in order to increase a response.
- **In health behavior change, we always use the principle of positive reinforcement.**



# Positive Reinforcement example

- **Watching TV after doing all your homework**
  - Sasha doesn't enjoy doing his homework. Sasha loves watching Pokémon. If Sasha finishes all of his homework when he gets home from school, then he gets to watch an episode of Pokémon.
- **Why is this positive reinforcement?**
  - Sasha does not like doing his homework. However, if he does it he gets the reward of something he does like; watching Pokémon. Every time he does his homework he is given a reward that he likes making it more likely that he will repeat the behavior, therefore positive reinforcement is occurring.
- **Before:** homework... groan
- **Behavior:** do homework
- **After:** get to watch Pokémon
- **Future behavior:** Sasha will do his homework in order to get to watch Pokémon

# Negative Reinforcement example

- **Blasting the Car Horn**

- When the light goes green at a traffic light, the car in front of Sarah doesn't move. She hates when this happens and from experience knows that blasting her car horn gets cars that are in front of her out of her way. She dutifully blasts the horn and the car moves out of her way.

- **Why is this negative reinforcement?**

- The car stuck in front of Sarah is aversive to her and she wants it removed. She blasts her horn at the car and it moves out of the way (it's removed). She knows from experience that blasting her horn like this gets rid of these annoying cars and so continues to do it, therefore negative reinforcement is occurring.

- **Before:** annoying car in front.

- **Behavior:** blast the car horn.

- **After:** annoying car is gone.

- **Future behavior:** Sarah will blast the horn when an annoying car is in front of her.

# Punishment

- **Punishment** is a process by which a consequence immediately follows a behavior which decreases the future frequency of that behavior.
  - Like reinforcement, a stimulus can be added (positive punishment) or removed (negative punishment).
  - Positive punishment - *presenting* a negative consequence after an undesired behavior is exhibited, making the behavior less likely to happen in the future.
  - Negative punishment - when a certain desired stimulus is *removed* after a particular undesired behavior is exhibited, resulting in the behavior happening less often in the future.

# Positive Punishment example

- **Getting a speeding ticket**

- Sam is running late for work and has to pass through a school zone in order to get to the freeway. He feels rushed and thinks that if he drives over the speed limit he will get to work faster. He drives over the speed limit and gets a ticket.

- **Why is this negative reinforcement?**

- Sam partied the night before so he is running late for work. He has to pass through a school zone in order to get on the freeway. He is stressed because he is late for work. He decides to go faster than the posted speed limit to get to the freeway faster. A police officer sees him and pulls him over and issues a speeding ticket (adding something), therefore positive punishment is occurring.

- **Before:** running late

- **Behavior:** driving over the speed limit

- **After:** speeding ticket applied

- **Future behavior:** Sam will drive the speed limit at all times

# Negative Punishment example

- **Toy gets taken away**

- Gemma & Talia both want to play with Chiropractor Barbie. They know that they can take turns with the toy or play with the toy at the same time but they each want to play with the toy exclusively. They start fighting over the toy & their mom comes over and takes away Chiropractor Barbie.

- **Why is this negative reinforcement?**

- Both girls want to play with the toy. Mom does not want to hear them fight, so she takes away the toy and now neither of them get to play with it (it's removed). If both girls want to be able to play with the toy they cannot fight over it, therefore negative punishment is occurring.

- **Before:** both siblings want the same toy

- **Behavior:** fight over toy

- **After:** toy gets taken away.

- **Future behavior:** kids will learn to play together/share the toy/take turns with the toy

# Generating Ideas for Your Practice

- Utilizing the principals we just learned, how can you implement these into your practice in order to generate patient participation, compliance and referrals
  - Observational Learning
    - Patient participation
    - Compliance
    - Referrals
  - Positive Reinforcement
    - Patient participation
    - Compliance
    - Referrals

# Recap

- 3 Learning Theories
  - Classical conditioning
  - Operant conditioning
  - Observational learning
- Reinforcement v Punishment
  - Positive or Negative
  - POSITIVE REINFORCEMENT is always used in creating health behavior change

**BREAK**

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**15 MINUTES**

# BEHAVIOR CHANGE MODELS

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Neurophysics & Neuropsychology of Behavior

# Neurocognitive Dynamics

- Review of brain function
  - Human brain has approximately 100 billion neurons present after nearly the same amount are pruned away through early development
  - Each of these neurons will connect with 1,000 to 200,000 others to form a minimum of 1 trillion synapses.
  - These synapses are not “hard-wired”

# Neurocognitive Dynamics

- Electrochemical patterns are converted into biochemical patterns and then into electrochemical messages.
- Over 60 neuro-active protein based chemical messengers carry different messages to different parts of the brain.
- Subneural, endocrine, paracrine also play a role
- The brain can create an astronomical number of discrete patterns



# Unconscious Programming

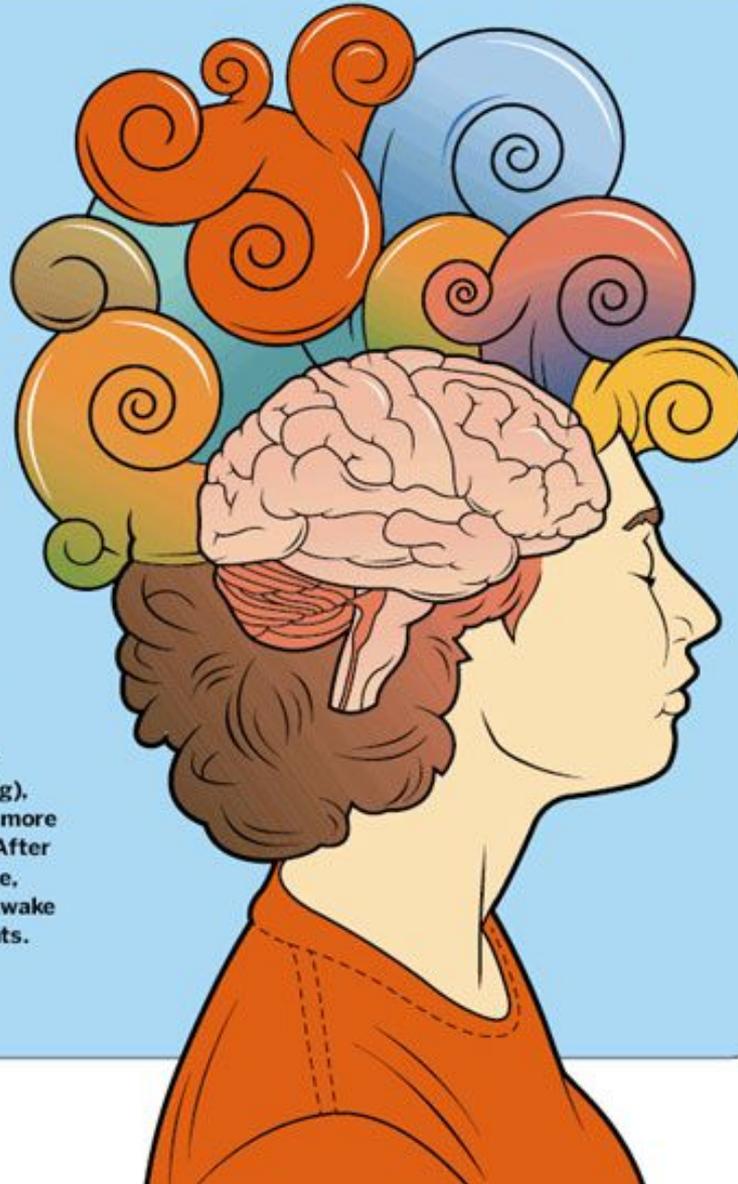
- **Brainwaves** are produced by synchronized electrical pulses from masses of neurons communicating with each other.
- When our brainwaves are out of balance, there will be corresponding problems in our emotional or neuro-physical health.
- Research has identified brainwave patterns associated with all sorts of emotional and neurological conditions.
- EEGs are used to measure brainwaves via a brainmap

## MAKING WAVES

The brain wave spectrum divides into 5 bands with different associated states:

-  DELTA WAVES ( $\delta$ ), 1/2–4Hz:  
Deep unconscious, intuition and insight
-  THETA WAVES ( $\theta$ ), 4–8Hz:  
Subconscious creativity, deep relaxation
-  ALPHA ( $\alpha$ ) waves, 8–13Hz:  
"Spacey" and dreamy state, receptive and passive
-  BETA ( $\beta$ ) waves, 13–30Hz:  
Conscious thought, external focus
-  GAMMA ( $\gamma$ ) waves, 30–100Hz:  
Not well understood, but linked to perception and alertness or anxiety

During successful meditation, the subject typically starts off with high beta (thinking), then experiences more alpha, followed by more theta and finally delta, the deepest level. After some time, the reverse process takes place, bringing the person back to beta feeling awake and refreshed, sometimes with new insights.



# Brainwaves – Delta

- Delta brainwaves .5 TO 3 HZ
  - are slow, loud brainwaves (low frequency and deeply penetrating, like a drum beat).
  - generated in **deepest meditation and dreamless sleep**
  - Delta waves suspend external awareness and are the source of empathy.
  - **Healing and regeneration** are stimulated in this state, and that is why **deep restorative sleep** is so essential to the healing process.

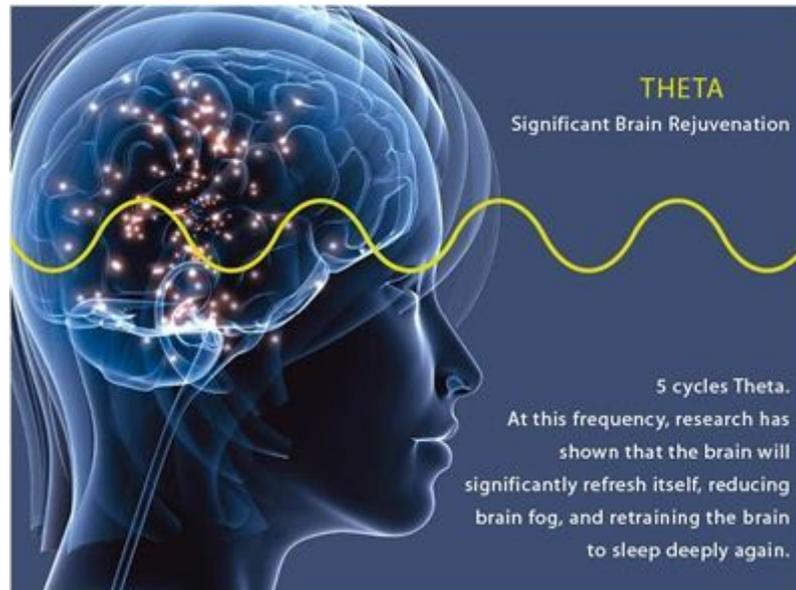
# Brainwaves - Theta

- Theta brainwaves 3 TO 8 HZ
  - occur most often in sleep but are also dominant in **deep meditation**
  - gateway to **learning, memory, and intuition**
  - senses are withdrawn from the external world and focused on signals originating from within



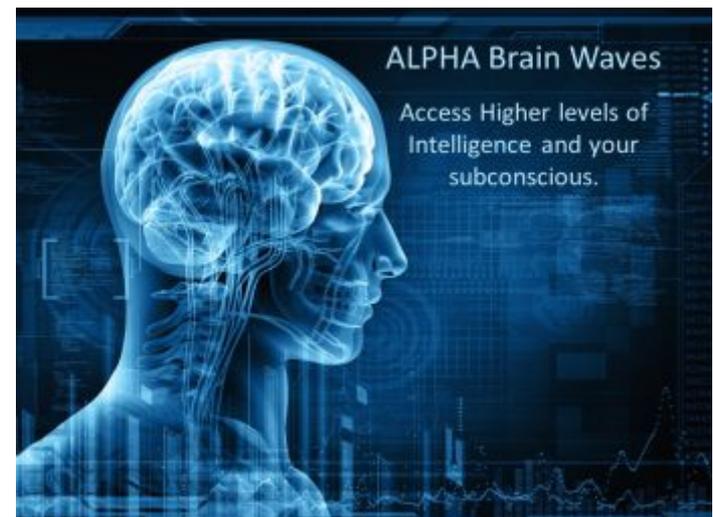
# Brainwaves - Theta

- It is that twilight state which we normally only experience fleetingly as we **wake or drift off to sleep**.
- In theta we are in a **dream**; vivid imagery, intuition and information beyond our normal conscious awareness.
- It's where we hold our 'stuff', our fears, troubled history, and nightmares.



# Brainwaves – Alpha

- Alpha brainwaves 8 TO 12 HZ
  - dominant during **quietly flowing thoughts**, and in **some meditative states**.
  - Alpha is ‘the power of now’, being here, in the **present**.
  - Alpha is the resting state for the brain.
  - Alpha waves aid overall **mental coordination, calmness, alertness, mind/body integration and learning**.
  - Be here now – “stay” meditation

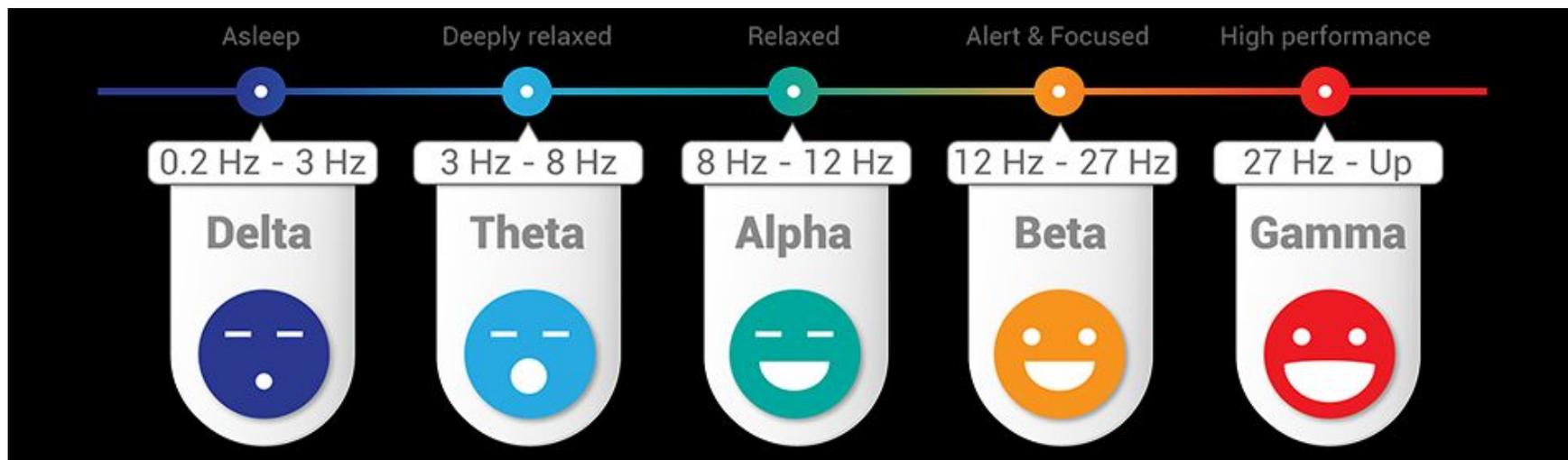


# Brainwaves – Beta

- Beta brainwaves 12 TO 38 HZ
  - dominate our normal waking state of consciousness when attention is directed towards cognitive tasks and the outside world.
  - ‘fast’ activity, present when we are **alert, attentive, engaged in problem solving, judgment, decision making, or focused mental activity.**
  - Beta brainwaves are further divided into three bands
    - Lo-Beta (Beta1, 12-15Hz) can be thought of as a 'fast idle', or musing.
    - Beta (Beta2, 15-22Hz) is high engagement or actively figuring something out.
    - Hi-Beta (Beta3, 22-38Hz) is highly complex thought, integrating new experiences, high anxiety, or excitement.
  - **Continual high frequency processing is not a very efficient way to run the brain, as it takes a tremendous amount of energy.**

# Brainwaves – Gamma

- Gamma brainwaves 38 TO 42 HZ
- the fastest of brain waves (high frequency, like a flute)
- relate to simultaneous processing of information from different brain areas.
- pass information **rapidly and quietly**.
- the mind has to be **quiet** to access gamma
- Gamma was dismissed as 'spare brain noise' until researchers discovered it was **highly active when in states of universal love, altruism, and the 'higher virtues'**.
- Gamma is also above the frequency of neuronal firing, so how it is generated is still under study.
- It is speculated that gamma rhythms modulate **perception and consciousness**, and that a greater presence of gamma relates to **expanded consciousness and spirituality**.



# Biofeedback

- Any process that changes your perception changes your brainwaves.
- Chemical interventions such as medications or recreational drugs are the most common methods to alter brain function
- Over the long term, traditional eastern methods (such as meditation and yoga) train your brainwaves into balance.
- Biofeedback is a modern way to change and monitor brainwaves

# Biofeedback cont.

- Biofeedback is a technique to help you learn to control internal functions normally outside of conscious control.
- You learn this by using sensitive instruments that measure and display physical or mental processes - making you aware of things that you can't easily feel or detect on your own.
- Used for: migraines, chronic pain, incontinence, HBP

# Biofeedback cont.

- When **alpha** oscillations are prominent, your sensory inputs tend to be minimized and your mind is generally clear of unwanted thoughts.
- When your brain shifts gears to focus on a specific thought—in either a positive or negative way—alpha oscillations tend to disappear and higher frequency oscillations begin running the show.
- Alpha wave biofeedback has been shown to be a useful tool for treating anxiety and depression.
- Because alpha waves are linked with relaxed mental states, an increase in alpha wave activity is the goal of most biofeedback training.

# EEG NEUROFEEDBACK (TRADITIONAL NEUROFEEDBACK)

- EEG (electroencephalogram) is traditional surface neurofeedback, as has been used for decades with great success.
- The most common EEG neurofeedback uses two sensors
  - 2 brainwave sensors, 2 ear sensors, and a ground.
- With these, the clinician can train surface brain activity and properly tailor that training to the individual.
- EEG neurofeedback can be highly effective for a wide range of conditions.



# Habits and the Subconscious

- Habits and beliefs create patterns in the subconscious mind, dictating attitudes.
- Habits are by themselves nothing more than **learned and strongly accepted suggestions that have become entrenched in the normal thought pattern of an individual.**
- Habits shape our actions, decisions and establish one's value system.

**I don't have any  
bad habits.**

**I am good at all  
of them.**

# Instinct

- Instinct can be defined in general terms as a specific type of subconscious behavior, that guides basic emotional responses.
- It was first used in the 1870s by Wilhelm Wundt
- Instinct seems to supersede any analytical or critical thinking and seems guided by biological imperatives
  - Subconscious fight or flight decisions

# Instinct cont.

- From the middle of 20th century, the term and the study of instinctual behavior in relation to humans has mostly been replaced by behaviorism
- It seems that humans are able to override or suppress most of this type of emotional response or motivational force (drive) if able to use critical thinking
- Failing to do so often results in performing actions outside of accepted behavior in society.

# Hypnosis - background

- First studied by **Franz Anton Mesmer** 1799
  - Published 2 papers on Animal Magnetism which was not well received at the time.
  - Attempted to describe animal magnetism as the attraction & repulsion of bodies through gravity, mineral magnets & static electricity.
  - Was using Newtonian physics model.

# Hypnosis - background

- Mesmer believed that all properties of man and nature were the result of their organization.
- “...all properties are the combined result of the organization of bodies and of the motion of the fluid in which they are immersed.”
- Mesmer’s work was based on the idea that the vital energy of life was an animal form of electricity that could be exchanged between people in a fashion like magnetism.
- Believed that *physical phenomena and properties of man are interconnected, sharing a common source* → Innate & Universal Intelligence

# DD Palmer and Animal Magnetism

- D.D. Palmer was described as being interested in “animal magnetism,” after studying the work of Anton Mesmer
- Palmer interpreted “animal magnetism” by connecting it to the universal intelligence of God.
  - He thought of this intelligence as deriving from God, and being embodied in each of us as “Innate Intelligence”
- He also thought of it as “flowing” in the manner that was being discovered for electricity.
  - He placed the flow of this “energy” in the nervous system.
- He then equated normal, unimpeded flow with good health and flow that was interrupted or interfered with as ill health.
- He identified the site of this interference as the spinal bones where the nerves exit the spine
  - Subluxation
- Hence, his healing model was: The removal of subluxation – by a chiropractic adjustment – will restore the flow of Innate Intelligence and bring good health again!”

# Hypnosis - background

- Animal Magnetism continued to be studied with published papers from 1825-1841.
- In 1843 a distinction was made between animal magnetism and Hypnosis or “Nervous Sleep” by James Braid
- By 1880’s there is a clear distinction between the 2 schools of thought.
- 1889 Bernheim publishes Suggestive Therapeutics: A treatise on the Nature and Uses of Hypnotism
  - The state of hypnosis can be obtained on suggestion alone

# Hypnosis - background

- Clark Hull (1933)
  - Hypnosis and Suggestibility: An Experimental Approach
  - **Began to combine techniques of suggestion with behavioral science.**
- Andre Weitzenhoffer (1957)
  - **General Techniques** of Hypnotism
  - Detailed the fundamentals and warned of possible dangers
- Milton Erickson (1901-1980)
  - Developed as a **science and art** form
  - Taught & influenced: Jay Haley (1967) & Ernest Rossi (1980)
  - **NLP** is born out of these principles and methods
  - The **verbal induction** patterns became known as the Milton model

# Understanding Hypnosis

- Mind and behavior arise out of patterns between our biophysical system and our environment (Epigenetics)
- These patterns are either accessible to our conscious awareness or not.
- Patterns that are incorporated by stable biological substrates and can be reliably repeated = memory

## ***Future memory (NeuroPrint)***

*The “memory” group stored as a future projection based on past experience. Future memory is the unconscious mind’s way of providing itself with behaviours consistent with its recorded history and belief system. Without conscious intervention the basic design of your life will proceed unimpeded. With conscious intervention you can redesign your future memory. Future memory is fluid and constantly changes based on events and reactions in conscious now.*

**THE BEST PREDICTOR OF  
FUTURE BEHAVIOR IS  
PAST BEHAVIOR.**



# Understanding Hypnosis

- All learning, memory, behavior & cognitive faculties are the result of patterns but they are state/phase dependent (brain wave).
- The information available is dependent on the state/phase (brainwave).
- Are we able to change our behavior at a subconscious level?

# Understanding Hypnosis

- Hypnosis is a process which is constantly evolving- a process of interacting with pattern
- The process of hypnosis affects spatiotemporal patterns of behavior between neuronal assemblies
  - Activity level
  - Source of information incorporated
  - Ambiguity-induced intermittency

# Activity Level

- Neuron connectivity patterns propagate at different frequencies (brain waves).
- One of the goals of hypnotic induction is to slow down the frequency

# Activity Level cont.

- Slowing voice tempo or lowering voice volume is a way to achieve this
- Can bring from beta wave to theta wave
  - From alert and processing to deep meditative state/dreaming
- Visualizations may occur as the brainstem activity decreases
  - As NE decreases and ACh increases visual images become more vivid and the ability to voluntarily direct our own attention and exert volition decreases

# Source of Information

- As the activity level of the brainstem decreases, we pay less attention to external stimuli and we are better able to focus on information that is a result of replicated patterns (i.e. memory) which is influenced *in part* by external environment.
- Directing the subject's attention gradually away from narrowed external focus to an internal

# Ambiguity-Produced Intermittency

- Ambiguity leads people into trance and specificity leads people out of trance
- TRANCE – internal transition from one state/phase to another. The process of transitioning.
- During transitioning the state vector is moving freely. This destabilizes neuron connectivity patterns allowing for **dynamic reorganization**.
- The information available in each cognitive state will be different.
- Trance allows the brain to shift more smoothly between states to access different information

# Depth of Trance

- Depth of trance is the result of change in the dynamic balance of NE & Ach
  - NE ↓ feels like going from waking to sleeping.
    - More dramatic drop=deeper trance
  - ACh↑ movement of limbs inhibited
    - Similar to REM sleep. Pons inhibits movements for safety.

# Behaviorism & Hypnosis

- Behaviorism is important for hypnosis as it helps explain the reasons behind responses, and so it can be helpful in constructing better suggestions.
- Even permitting to create mental stimuli as to obtain the necessary reaction or changes in behavior.
- This principal is better utilized in stopping a detrimental health behavior, but is also useful in creating a positive one

# Behaviorism & Hypnosis

- Behaviorism states that we move toward things that we consider positive, and away from things we think are negative
- During hypnosis, your body is deeply relaxed and you are able to concentrate intensely on a specific thought, memory, or sensation, while blocking out all other distractions.

# Behaviorism & Hypnosis

- Example: Quit smoking by shifting focus
  - Original thought process was that smoking helps to relax and the nicotine helps the person feel better.
  - Changing this thought process to "nicotine is keeping me trapped in a cycle where I can only feel okay when I have I have it."
  - Change the subjective definition of Nicotine
- Nothing about the actual cigarettes changed, their subjective meaning changed.



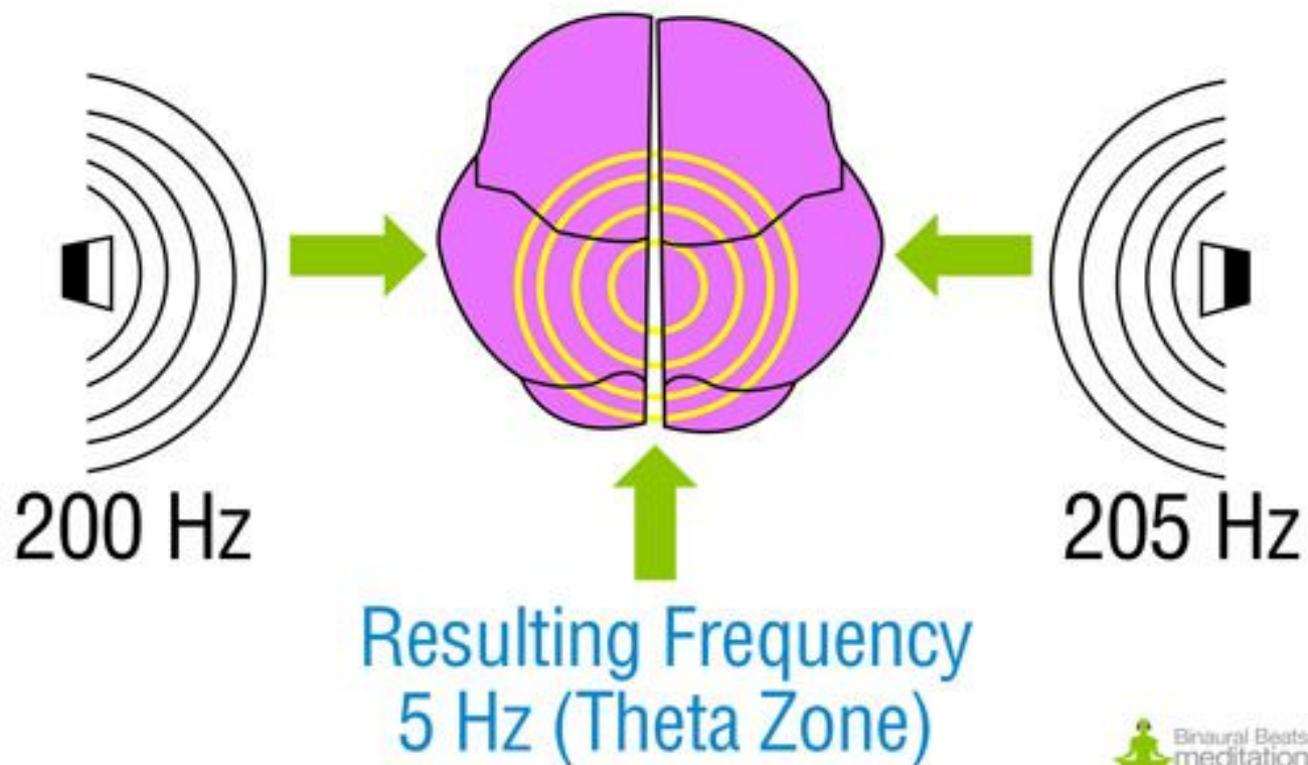
# Binaural beats

- Binaural beats are auditory brainstem responses which originate in the superior olivary nucleus of each hemisphere. They result from the interaction of two different auditory impulses, originating in opposite ears, below 1000 Hz and which differ in frequency

# Binaural beats

- The word binaural means “having or relating to two ears”. This represents the process, which works by simultaneously sending a marginally different sound frequency to each ear through headphones.
- Brainwave entrainment happens inside the brain, and is caused by a physiological response. Upon hearing two tones of different frequencies – sent simultaneously to the left and right ears – the brain perceives a third tone based on the mathematical difference between the two frequencies.
- The brain then follows along at the new frequency and produces brainwaves at the same rate of Hertz (Hz).

## HOW BINAURAL BEATS WORK



# Placebo Effect

- The human brain anticipates outcomes, and anticipation produces those outcomes.
- The placebo effect is self-fulfilling prophecy, and it follows the patterns you'd predict if the brain were, indeed, producing its own desired outcomes.
- 2004 study in the Brain Journal showed that increased corpus callosum size is positively associated with hypnotizability as well as the ability to control pain.

# Placebo Effect & Hypnosis

- The mechanisms involved in analgesia would appear to have much overlap with the mechanisms involved in hypnosis-induced analgesia.
  - This is based on the fact that there is no exogenous chemical catalyst that spurs the analgesic reaction.
- The main differences between the two are that hypnosis generally involves two people (hypnotherapist & patient) rather than one
- Hypnosis seems to induce a greater amplification of theta waves compared to placebo (alpha).
- Hypnosis is theoretically based on bypassing the conscious mind and tapping into the “subconscious” in order to induce an effect.

# Recap

- **Brainwaves** are produced by synchronized electrical pulses from masses of neurons communicating with each other.
- When our brainwaves are out of balance, there will be corresponding problems in our emotional or neuro-physical health.
- Behaviorism states that we move toward things that we consider positive, and away from things we think are negative
- During hypnosis, your body is deeply relaxed and you are able to concentrate intensely on a specific thought, memory, or sensation, while blocking out all other distractions.

**BREAK**

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**15 MINUTES**

# BEHAVIOR CHANGE MODELS

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Operant Conditioning in Practice

# Health Behavior Change

- Enabling patients to create positive behavior change has an empowering effect.
- In health behavior change, we always use the principle of **positive reinforcement**.
- In order to repeat the desires of positive health behavior, we will add something desired every time the behavior is performed.
- Positive health behavior = REWARD

# Health Behavioral Change Models

- Behavioral Change Programs

- **Health Behavior Change is based in Operant Conditioning**
- In order to encourage positive health behaviors **reinforcement works better than punishment** after a behavior.
- The emphasis is on creating a positive health habit NOT stopping a detrimental habit

# Definitions

- Antecedents – “Triggers”
  - Physical, Situational or Emotional
- Behaviors – Responses to triggers
- Consequences – Outcomes or what happened immediately after the behavior occurred.
- Example
  - Feeling - I am feeling really sad about my breakup
  - Trigger - I see my ex at a party
  - Behavior - I overeat at the party to ease my anxiety
  - Consequence - This does not aid in my weight loss effort (in order to look really good and make my ex jealous)

# Health Behavioral Change Models

- The first step in health behavior change is to assess an individual's readiness to act on a new healthier behavior.
- Based on this the wellness doctor can provide strategies to guide the individual through the Stages of Change and into Action and Maintenance.

# Stages of Change

## Stages of Change Model

**Precontemplation:** No current intention of changing. "Ignorance is bliss"

**Contemplation:** Recognize a problem. "Know a change needs to be made, but not taking any immediate action."

**Preparation:** Close to taking action. "Experienced with change. Trying to change." Planning to act within 1 month.

**Action:** Making plans for behavior change. "Exercising regularly. No longer smoking." New behavior practiced for 3-6 months.

**Maintenance:** Plan is in place, but it requires vigilance for success. There is a potential for relapses. "Falls off the wagon" or "fails" but starts again.

**Termination:** New behavior is now firmly in place and part of daily life. Change is complete.

# Stages of Change – Example

- Pre-contemplation
  - Not even on my radar
- Contemplation
  - I've always wanted to be able to run 5 miles
- Preparation
  - I need new shoes, a fit-bit, running gear, a route, etc.
- Action
  - Ugh, running is HARD!
- Maintenance
  - Running is hard, yet I am committed to it
- Termination
  - I run 5 miles without thinking about it

# Readiness To Change Scale

- [Workout Gear Shopping Spree](#)
- **Assessing motivation and readiness to change for weight management and control**
- Assessing motivation and Readiness To Change levels in weight-management can have an important impact on the outcome of efficient weight-control treatment interventions.
- By promptly identifying psychological obstacles or resistance to change in overweight or obese individuals engaged in a weight-loss treatment, could dramatically favor positive effects.
- Specific weight-loss interventions could be tailored according to certain behaviors an individual should achieve in order to change, at different stages during treatment.
- It is fundamental to determine the motivational level of overweight or obese individuals enrolled in specific weight-loss programs, especially considering that most of them later go back to their original weight in three to 5 years after treatment.

# Readiness To Change Scale cont.

- The Readiness-to-Change Ruler can be used as a quick assessment of a person's present motivational state relative to changing a specific behavior, and can serve as the basis for motivation-based interventions to elicit behavior change.
- Readiness to change should be assessed regarding a very specific activity such as taking medications, following a diet, or exercising, since persons may differ in their stages of readiness to change for different behaviors.

# Readiness To Change Scale cont.

- The Readiness-to-Change Ruler is used to assess a person's willingness or readiness to change, determine where they are on the continuum between “not prepared to change” and “already changing”, and promote identification and discussion of perceived barriers to change.
- The ruler represents a continuum from “not prepared to change” on the left, to “already changing” on the right.
- A score above 5 shows that the person is willing to consider change and should be supported and encouraged.

## READINESS RULER

Below, mark where you are now on this line that measures your change in \_\_\_\_\_.

Are you not prepared to change, already changing or somewhere in the middle?



Not prepared  
to change

Already  
changing

### FOLLOW-UP QUESTION SUGGESTIONS

#### If the person's mark is on the left of center:

- How will you know when it is time to think about changing?
- What signals will tell you to think about making a change?
- What qualities in yourself are important to you?
- What connection is there between those qualities and not considering a change?

#### If the person's mark is near the center:

- Why did you put your mark there and not closer to the left?
- What might make you put your mark a little further to the right?
- What are the good things about the way you are currently trying to change?
- What are the things that are not so good?
- What would be a good result of changing?
- What are the barriers to changing?

#### If the person's mark is on the right of center:

- What is one barrier to change?
- What are some things that could help you overcome this barrier?
- Pick one of those things that could help and decide to do it by \_\_\_\_\_ (specific date).

#### If the person has taken a serious step in making a change:

- What made you decide on that particular step?
- What has worked in taking this step?
- What helped it work?
- What could help it work even better?
- What else would help?
- Can you break that helpful step down into smaller parts?
- Pick one of those parts and decide to do it by \_\_\_\_\_ (specific date).

#### If the person is changing and trying to maintain that change:

- Congratulations! What's helping you?
- What else would help?
- What makes it hard to maintain the change?

#### If the person has "relapsed":

- Don't be hard on yourself. Change is hard and may take time.
- What worked for a while?
- What did you learn that will help when you give it another try?

# Dr. Massa's Big 5 to Wellness

1. What are you eating?
2. What are you drinking?
3. How are you moving?
4. How are you sleeping?
5. How are you dealing with stress?

# Motivational Interviewing

- **Motivational Interviewing** is a method of facilitating and engaging intrinsic motivation within a person in order to change behavior.
- The person is encouraged to explore all the beliefs and values they hold for and against a behavior that requires change.
  - List of positive and negative consequences of the behavior in order to reinforce a behavior
  - Pros (benefits) and Cons (obstacles)
  - Cons (obstacles) lead to generating **Solutions**
  - Pros (benefits) become the motivating **WHY** they want to change

# Motivational Interviewing cont.

- If the person decides to make a change they then formulate a plan (SMART) to facilitate the change\*
- A significant component of the motivational interviewing approach is for the (therapist) to resist telling the person what they should or should not do and to not lead the person to a decision by coercion as this can lead to resistance (Palmer 2012).

# Motivational Interviewing cont.

- The five general principles of motivational interviewing:
  1. Express empathy through reflective listening.
  2. Develop discrepancy between clients' goals or values and their current behavior.
  3. Avoid argument and direct confrontation.
  4. Adjust to client resistance rather than opposing it directly.
  5. Support self-efficacy and optimism.
- Patients generally know *what* to do, what they are seeking is support in making these changes.

# Motivational Interviewing cont.

- Why
  - Reasons for wanting to make a change (positive or negative)
- What
  - Specific area of change
- How
  - Preparation
  - Steps involved
  - Obstacles
  - Solutions to obstacles
  - How will I know if it is working
  - Support

# Motivational Interviewing cont.

- Health Goals can be revealed based on the ROS or a wellness questionnaire during patient intake.
- Motivational Interviewing can be done at the ROF or during a regular visit.
- It can be something formal that is regularly done in your practice, or informally to keep your patients motivated in developing a healthier lifestyle.
- It is a different approach to tell the patient *what* they need to do versus, engaging them in a partnership in *how* they can make a positive health change.

# Motivational Interviewing cont.

- A patient may have many health goals that can be set, however, it is best to work on 1 goal at a time.
- Example - In the ROF
  - Review the *what* (nutrition, stress exercise etc. recommendations) and then move into the *how*.
  - “Between working on your nutrition, water intake or exercising more, which of these 3 behaviors are you most motivated to change right now?”
- Example – At a regular visit
  - Check-in on “the big 5” as you palpate
  - If goals are being met ask, “What do you think made you successful?” and then celebrate the win!
  - If goal is not being met, inquire about the obstacles, and generate solutions.

# Recap

- In health behavior change, we always use the principle of **positive reinforcement**.
- The first step in health behavior change is to assess an individual's **readiness** to act on a new healthier behavior as they move through the **stages of change**.
- **Motivational Interviewing** is a method of facilitating and engaging intrinsic motivation within a person in order to change behavior.

**BREAK**

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**10 MINUTES**

# SETTING & TRACKING GOALS

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# Outcome Goals v Process Goals

- **Outcome goals** are a result you'd like to achieve.
  - Ex: Lose 25 pounds
  - Most people only set outcome **goals**, which they then never meet.
  - There is no guarantee that the outcome will be met. With little success, the person is not motivated to continue their health efforts.
- **Process goals** are the processes you will need to repeatedly follow to achieve that result (i.e. Health Behavior)
  - Ex: Walk everyday at lunch
  - If the behavior is repeated and rewarded then the person is more likely to continue the effort.
  - Over time, the positive health behavior change will lead to a healthier lifestyle.

# SMART Goals

- **S**et a goal
- **M**onitor progress
- **A**rrange environment for success
- **R**ecruit Support
- **T**reat Yo-Self!

# SMART Goals – Set a Goal

- **Goals**

- **Specific**

- **Measurable** (Time frame, Day, Time, Location)

- **Have a time limit**

- **Based on BEHAVIOR – WHY?**

## Class Activity:

Create a Goal that is specific and measurable with a time limit.

Examples:

- Water intake
- Sleep
- Daily exercise
- Eating vegetables

# Set a Goal – cont.

- Target Behavior
- Time frame
- Location (where)
- When (day/time)
- Duration (how long)
- Example
  - Target Behavior – Walking
  - Time frame – 2 weeks
  - Location (where) – at work; around the building
  - When (day/time) – M-F at 12 pm
  - Duration (how long) – 30 minutes
  - Goal: **For the next 2 weeks, I will walk around the building at work during my lunch break for 30 minutes M-F.**

# SMART Goals – Monitor Progress

- What are health outcomes or behaviors that can be monitored?
- What are ways in which we can monitor these outcomes or behaviors?
- We are monitoring 2 things
  - IF it happened
  - WHAT happened
  - Example: I did walk M-F. I walked for 20 minutes instead of 30 minutes.
- Going back to your goal... How will you monitor your progress?

# Monitoring cont.

- In the SOAP note
  - The patient will have their own individual method of monitoring their health behavior goal.
  - As the Wellness Doctor you will be checking in with them at every visit in order to keep them accountable.
- Example
  - Goal: Drink 2 liters of water per day
  - Ask: Did you hit your goal everyday since our last visit? If not, what got in the way? What could you do differently today/tomorrow in order to meet your goal?
  - Make sure to note what they **DID** do in the SOAP note.
  - How could monitoring health behavior goals assist in the patients overall care plan? Would that affect healing outcomes?

# SMART Goals – Arrange Environment

- Based on the health goal you set... What are ways in which you will have to arrange your environment in order to achieve your goal?
- What are the barriers? How will you overcome them?

# Arrange Environment cont.

- Arranging the Environment involves elements identified during the motivational interview:
  - Preparation – What will be needed (clothes, babysitter, health club membership, etc.)
  - Steps involved – (buying items, arranging time, organizing childcare, etc.)
  - Obstacles – (babysitter cancels, boss asks you to work overtime, kids need a ride)
  - Solutions to obstacles – (creating a Priorities List\*)

# Arrange Environment cont.

- **Priorities List**

- Based on a person's value system, ask them to make a list of what they value most
  - Family, Health, Work, Spirituality, Social Life, Hobby, etc.
- Next, have them to order that list with the most important thing on top. List no more than **4** items.
  - Most people place Health at the top
- Then ask the difficult questions
  - Ex List: Health, Family, Career, Friends
  - Ask, "So if you had planned to go to the gym after work, but your boss asks you to stay late to hit a deadline, do you skip the gym?"
  - Ask, "If you had planned to go for a run but your teen needs a ride to soccer practice, do you skip your run?"
- This puts things into perspective as well as allows for the person to brainstorm solutions to obstacles

# SMART Goals – Recruit Support

- A positive support system enables a person to best achieve behavior change.
- How would the following affect a person's ability to effectively make health behavior changes:
  - Spouse
  - Children
  - Parents
  - Extended family
  - Friends
  - Neighbors
  - Co-workers

# Recruiting Support cont.

- An Accountability partner helps to maintain commitment to a goal.
  - Daily or weekly check in
  - May or may not have the same goal
- A Change partner is someone that has the same health goal.
  - Exercise together
  - Diet together

# Recruiting Support cont.

- What happens when 1 person wants to change but their partner/parent/child, etc. does not want “things” to change?
- What are some strategies you can use to empower your patients?

# SMART Goals – Treat Yo-self

- Treat yo-self
- Treats AKA Rewards
  - Immediate
  - Every Time
  - Is this reinforcement?
  - Back to your goal... how will you treat yourself?
  - How is the video NOT a way to reinforce behavior?

# Treat Yo-self cont.

- Treats/Rewards are the **hardest** part of creating a health behavior change goal.
- Because they must be immediate and every time, they must be easily accessible as well as affordable.
  - It would be great to buy myself a new pair of lulu lemon workout pants every time I work out, but that would be way out of my budget.
- Happiness List
  - Encourage your patients to create a **Happiness List**
    - List of treats/rewards that are free or cheap
      - Ex: adding lemon to water, playing on Facebook for 15 minutes, burning a candle, taking a relaxing sauna & shower at the gym, jamming out to fave playlist, etc.

# Recap

- Process goals are preferred over outcome goals in order to instill confidence in your patients.
- SMART is an acronym used in setting health related goals

**BREAK**

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**5 MINUTES**

# WELLNESS PROGRAMS

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Implementation

# Resources

- There are over 220 files on the [Free Materials](#) link on the **Back to Chiropractic** website, feel free to use as many as you like.
- The goal is that you will have materials for your office that are effective in properly educating your patients.
- This includes a patient take home self-evaluation form that helps the patient see the benefits of chiropractic care.
- [Backtochiropractic.net](http://Backtochiropractic.net)

# Wellness Intake

- Whether the patient is coming in solely for wellness care (asymptomatic) or they have just completed acute or corrective care, a wellness intake ushers the patient into a new phase of care.
- This is a familiar process just as they have already experienced in their previous intake (for acute or corrective care)
- If they are asymptomatic, there should still be some sort of intake process, it's just that the emphasis during the intake is shifted.

# Wellness Intake History

- Review of Systems
  - A thorough Review of Systems exploring past and/or current infection, injury or illness is essential to educating the patient on the effectiveness of chiropractic & wellness care
- Wellness Assessment
  - All components of lifestyle wellness behaviors along with height & weight (CA law)
  - Optional: body composition, functional health (previously referred to as functional medicine) systems screening

# Review of Systems

- It is your professional and ethical responsibility as a doctor to ask and follow up on a patient's Review of Systems
- **GASTROINTESTINAL**
- **RESPIRATORY**
- **EYES, EARS, NOSE, THROAT**
- **ENDOCRINE**
- **NEUROLOGICAL**
- **CARDIOVASCULAR**
- **REPRODUCTIVE**
- **URINARY**
- **MUSCULOSKELETAL**
- **SKIN**

# Review of Systems cont.

- **SOCIAL HX**
- **OCCUPATIONAL HX**
- **FAMILY HX – “BIG 5” (Cancer, CV, Psych, Autoimmune, Ortho/Neuro)**
  
- **SURGERIES**
- **HOSPITALIZATIONS**
- **ILLNESSES CHILDHOOD OR ADULT /IMMUNIZATIONS**
- **TRAUMAS**
- **ALLERGIES / HEMATOLOGICAL / LYMPHATIC**

# Wellness Questionnaire

- When a patient is asymptomatic, there is still much improvement that can be made in the individual's overall health
- A wellness questionnaire can help to identify areas of improvement

# Wellness Questionnaire cont.

- Components of a Wellness Questionnaire
  - Salutogenesis or general state of wellbeing
  - Outlook and Attitude
  - Stress levels
  - Work ergonomics and contentment
  - Hobbies
  - Psychosocial health

# Wellness Questionnaire cont.

- Diet & Nutrition
  - Special diet
  - Food allergies/sensitivities
  - Fast food/Meals eaten out
  - Servings of fruits/vegetables
  - Servings of water
- Alcohol/Tobacco/Caffeine
- Exercise & Activity
  - Type, frequency, duration
- Sleep
  - Adrenal function

# Wellness Intake Exam

- Components of a Wellness Intake Exam
  - Posture Screening
    - Although a patient is asymptomatic, we know that postural corrections decrease spinal cord pressure allowing for better overall brain function
  - Palpation Exam
    - Along with asymptomatic postural findings, there may also be asymptomatic subluxation and associated muscle palpation findings that correlate to Upper Cross Syndrome, Lower Cross Syndrome and/or kinetic chain dysfunction
  - Functional Screening Exam
    - Assessment of functional movement, Balance, Fall risk

# Wellness ROF

- Explain chiropractic in relation to expression of optimal health
- Explain how chiropractic influences the brain
  - Physical health
  - Emotional health
  - Mental health and cognitive functioning

# Wellness ROF

- Talk about the 3 causes of subluxation
  - Most people relate chiropractic to the physical cause of subluxation, but when a person is asymptomatic, this is irrelevant to them. Why come back if they are no longer in pain?
  - Nutrition & Stress influence the chemical causes of subluxation and proactively preventing these causes improves overall health
  - Stress and deleterious health habits influence emotional causes of subluxation and proactively preventing these causes improves overall health
- Use Motivational Interviewing techniques to set Wellness Goals and engage the patient in a partnership towards improvement.

# Wellness Re-evaluation & Re-eval ROF

- Wellness re-exam should closely mimic the Wellness Intake
- Wellness Re-eval ROF
  - Celebrate the wins – remind the patient of the goals set at the intake and report back the positive changes made
    - These can be found in your SOAP notes – Keep good notes!
    - Focus on behaviors but celebrate objective findings such as weight lost, medication dose reductions, postural changes, etc.
    - Set new goals and keep the momentum going!

# A Culture of Continual Improvement

- The common theme in chiropractic practices is that once a patient completes acute or corrective care, they transition into wellness care.
- Wellness care typically consists of the patient coming in on a regular basis for adjustments and the DC talks about chiropractic.
- There is not structure to this and after about a year or so, the patient will move on.
- The magic is lost because in the beginning there was a goal; an end-point. Now, they just come in with nothing to look forward to or strive for.

# A Culture of Continual Improvement

- In creating a Wellness Protocol, you are better able to guide the patient.
- You are providing measurable objectives and goals
- You are creating a sense of empowerment as well as providing accountability
- You are shifting the focus of what it means to be well and thriving away from the absence of pain and discomfort

# CONCLUSION

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# Today's Take-aways

- Health Behavior Change is rooted in classical & operant conditioning.
- As Wellness Doctors, you will frequently motivate health behavior change.
- This will help to build the Wellness Practice of your dreams and help spread the Big Idea!
- Go forth to do, to give, to love to serve!

# Keep in Touch

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