PTA Global BCE Master Study Guide

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Introduction

PTAG places a heavy emphasis not only on the physiological aspects of personal training but also on the behavioral and psychological aspects. Understanding behavior change is integral to having any client be successful. The ability to help a client find their motivation to eat better, get more sleep or be more active is what will deliver long term sustainable results.

These first steps go deep into how we control behavior and how we can change it. Motivational interviewing (MI) is a valuable tool for helping our clients find their reason ("Hot button" or emotional trigger) for changing. It’s very useful for prospecting, guiding clients towards success and can be integrated into assessments. The primary tool we have for MI is the "Program Design Questionnaire" which we’ll see used later on.

Learning Activities:
There are various learning activities throughout this study guide. Each activity is linked in the document next to the corresponding information for that activity.

If you would rather print off all of the activities at once, you can download a booklet of all of the learning activities here:
Learning Activity Booklet

Click on the link below to download the answer key for all of the learning activities:
Learning Activity Answer Key
Behavior Change & Motivational Interviewing

This section focuses heavily on the brain, the parts of it and how it functions. This material is very important as it tells us why people have certain behaviors and how they can change them. It lays a foundation for psychology and behavior change.

Learning Activity 1.1: Functions of the Brain

Carefully review this material:

**Hebbian Learning:** “Nerves that fire together wire together”
To perform any action our brain communicates between different neurons/nerves. Over time, these connections become more permanent and habitual. This makes changing an old habit challenging because it’s literally ingrained into how the brain and body work. It also makes it easier to maintain a good habit over time as the brain changes its wiring. This ability to change is what empowers us and makes us humans; it’s called **neuroplasticity**. This concept can be used to develop positive self-talk for our clients. It’s important for our client’s to maintain a positive outlook on their goal attainment and positive self-talk will do that.

Learning Activity 1.2: Positive Self-Talk

There are different ways that we try to get people to change due to our **righting reflex**, but not all are created equal and each works differently depending on the client. These methods are **insight**, **knowledge**, **skill** and **distress induction**.

Learning Activity 1.3: Righting Reflex

Everyone is in different levels of change - Some people want to change but haven't taken action, some are not even thinking about change and others may have made the change, but relapsed. These levels are defined through the **Transtheoretical Model of Change** (Precontemplation, contemplation, determination, action, maintenance and relapse).

Learning Activity 1.4: Understanding the Change and Motivational Models

**Motivational interviewing** is one of the most effective ways to get people to talk about changing. Some key parts are listening to the client, asking open ended questions and finding out what is really motivating this person to make a change.

An excellent way to draw out the “Why” is through **confidence scale questions** such as “On a scale of 1-10 how important is losing this 10 pounds? What makes it a 7/10? Why is it not an 8/10? Why is it not a 2/10?”

Learning Activity 1.5: Roleplay Motivational Interviewing

There are several tools that will aid motivational interviewing in creating lasting change including creating a decisional balance sheet, setting S.M.A.R.T.E.R. goals, Cognitive Restructuring and signing a change contract. The **Program Design Questionnaire** will be covered in detail in the “Building a Business” section and is incredibly useful in applying confidence scales.
Learning Activity 1.6: Using the Decisional Balance Sheet

Learning Activity 1.7: Setting S.M.A.R.T.E.R. Goals

Learning Activity 1.8: Cognitive Restructuring

We often know the basics of designing programs or cueing an exercise but understanding how to draw out motivation and help people change is what really matters. This is where PTAG excels and an area that doesn't get as much attention as it deserves.
Building a Business

Client Orientation & Personal Training Operations:

Being a personal trainer goes far beyond creating programs and cueing exercises. The business side of being a personal trainer is what causes many trainers to fail in this industry. Really soak in all these tools to understand how to obtain, retain and manage clients to ensure career longevity.

There are many things we must consider when interacting with clients and prospects. Every encounter is significant and can be the difference in retaining and getting new clients. The Primacy Effect shows us how important that initial interaction is. Having a plan, using open ended questions, listening empathetically and mirroring all help us connect better and develop rapport.

**Learning Activity 2.1: Developing Rapport**

It’s important to remember, our clients change for their reasons, not ours. We can help our clients to arrive at their own conclusions, by using the proper interviewing techniques: verbal extraction, reflective listening, affirmation, reframing, gap analysis, inverse reflection, root cause analysis and conversational alignment.

**Learning Activity 2.2: Interviewing Skills**

As we learned before, the brain’s main objective is to minimize risk and maximize reward. It’s important to determine if the client is motivated by Drive or Incentive Theory. This will help us ask the right questions and understand the client.

Effective communication to build rapport in a telephone inquiry is also really important. You’ve got to make an impression that will get the prospect to come in to see you. Remember to ask the right questions and avoid criticizing the competition.

**Learning Activity 2.3: Inquiry Call Script**

In meeting a prospective client for the first time, it’s imperative to create a positive first impression. There are 7 Ways to Create a Positive First Impression. A few tips to remember in maintaining a positive client/trainer relationship are to be empathetic, demonstrate humility, listen with empathy and never argue. From a financial standpoint it is less expensive to keep clients long-term through proper progression than to have to continually prospect for new clients. Follow the 6 Steps to Client Retention to achieve this.

6 steps to client retention:

1. Emotional Engagement
2. Uncompromising Experiences
3. Details
4. Become Your Client’s Raving Fan
5. Partnership
6. Self-Reinvention

Learning Activity 2.4: 6 Steps to Client Retention

In following the 6 steps to client retention along with the 10 keys to client retention we can greatly reduce the energy, time and money spent on acquiring new clients (Client Equity). Our schedules will be full and eventually we’ll have a waiting list reducing the stress of having to find new clients.

We all have the clients that we love to train, but inevitability, we deal with difficult clients. Be aware of what makes them difficult and use the outlined strategies to make your life easier and still get the client results.

Motivational Tools:

The Program Design Questionnaire is an excellent tool for prospecting, assessing clients and developing a program that suits the client’s goal, style and ability level.

Learning Activity 2.5: PDQ Roleplay

As important as the initial encounters are, we must continue to ask these same questions and ensure we always know what the client wants and needs during reassessments. The Kaizen-6 gives specific open ended questions to ask the clients. This ensures we as coaches are providing what the client wants and needs. It’s an excellent way to be proactive in retaining clients.

Learning Activity 2.6: Kaizen-6 Roleplay
Posture and Movement

This section delves into how the body is built in a holistic manner, and how it reacts to movement (Exercise). Fascial lines are relatively new but growing rapidly in the industry. We used to discard fascia as gunk covering the muscle (Think of the film you sometimes peel off a chicken breast, that's fascia). However, we now know that fascia is a connective tissue that helps the body integrate itself for movements. It shouldn't be overlooked and is a great way to look at movements and getting the whole body going.

This section also talks about training for various goals. For the goals we should understand what we're really aiming to achieve. Once the goals are clear we need to look at what the client needs to do and how we can program for this client to be successful both physically and mentally.

Viewing Posture:

**Posture**: The position of the body or relative alignment of body parts, in particular the musculoskeletal system, but it has an effect on every system of the body.

**Human Design & Biomechanics**: The human body is based on the **performance pyramid** which focuses on function, fitness, skill and then technique. Function is the foundation of performance which is what this step focuses on.

There are some **basic biomechanical principles** we need to keep in mind:

- The body is a **kinetic chain** joined by links (Joints).
- These joints move in **three different planes** and are influenced by force.
- Muscles, fascia and the nervous system are **integrated** to control movement.
- Kinetic chain reacts to **gravity, momentum, ground reaction forces and itself**.

To establish a base, we should focus on **force reduction as opposed to production**. This means focus on eccentric before concentric movement to build control and body awareness. For example, start by having someone squat down to a box.

As we move **all muscles are integrated to move a joint; a muscle doesn’t necessarily have to cross it**. What this means is that we can never truly isolate a muscle. Consider a bicep curl. Yes, the biceps are contracting, and we feel the emphasis on the biceps but consider all the other muscles working to stabilize body and oppose the resistance of a moving weight. Virtually,
every muscle is engaged and that’s a very linear and stagnant exercise, imagine the effect a wood chop has. Another example is the soleus or calf muscle. It **accelerates the knee into extension twice as much as it acts to accelerate the ankle into extension** for positions near upright posture.

If a client has a weakness or instability, we want to **decrease the range of motion** to allow the nervous system, muscular system and connective tissue to adapt.

The three layers of muscle and fascia are the **mesoderm** (Muscle, bone, fascia and connective tissue), **ectoderm** (Brain and nervous system) and **endoderm** (Digestive system).

Another important factor is how the nervous system controls the change within muscles. The **Golgi Tendon Organ** (Located at tendinous junctions) responds to a stretch and contraction of the muscles, whereas the **muscle spindles** (Located inside the muscle belly) are sensitive to the magnitude and rate of change. These proprioceptors automatically control movement to reduce injury due to rapid or extreme ranges of motion.

For example, they will stop a muscle from tearing by not allowing it lengthen under strenuous circumstances. The same goes for stretching. As we stretch these proprioceptors will not allow the muscle to lengthen past a certain point until about 20-30 seconds once the body realizes it is safe.

**Functional Anatomy:**

There are many fascial lines that run throughout our body in various directions with many attachment points. Watch the videos to understand how these lines are used in the body and how each one supports the body and other lines. There will be questions asking **where certain lines attach** so do not skip the anatomy of these lines. For practice trace the lines on yourself with your hand and then try the movements in the videos. Do this for the **Superficial Back Line, Superficial Front Line, Lateral Line, Back Functional Line and Front Functional Line**.

- **Learning Activity 3.1:** Identifying Functional Lines
- **Learning Activity 3.2:** Tracking the Superficial Back Line
- **Learning Activity 3.3:** Tracking the Superficial Front Line
- **Learning Activity 3.4:** Tracking the Lateral Line
- **Learning Activity 3.5:** Exercising the Functional Lines
Movement System:

The movement system is made up of the 3D Checkpoints which gives an easy to use system for movement manipulation to change the difficulty, style and to keep exercises fresh. It is made up of 5 categories:

- **Environment**: What equipment is used
- **Beginning Position**: Standing, kneeling, prone, supine etc.
- **Driver**: What part of the body is moving
- **Triangulation**: The way we are moving
- **Action**: The desired motion

Use the notes to understand which categories are best to manipulate for certain styles of clients. The best way to understand this tool is to use it on yourself. When you perform an exercise consider the five categories, how you could change the exercise, and what effect that change will have on the outcome.

*Learning Activity 3.6: Applying the 3DC*
Program Design: Goals

Endocrinology:

Hormones have a huge impact on the results of training. We can manipulate training to boost powerful hormones like growth hormone and testosterone. We can also program to decrease cortisol or over program releasing too much harmful cortisol. These and many other hormones are great predictors of change in the body. Learn how and where these hormones are released from and the affect they have on the body.

Pituitary Gland:
- **Antidiuretic Hormone (ADH):** Released because sweating causes loss of blood plasma, ADH triggers the kidneys to recycle water
- **Growth Hormone:** Released during specific exercise protocols, promotes muscle growth

Adrenal Medulla:
- **Catecholamines:** Increases adrenaline which augments the secretion of other hormones, increases with exercise but rapidly decreases afterwards

Pancreas:
- **Insulin:** Released when hyperglycemic to transport glucose (Sugars) from the bloodstream to the liver, muscles and fat cells
- **Glucagon:** Released when hypoglycemic to raise concentration of glucose in bloodstream

Testes:
- **Testosterone:** Stimulated by high intensity high recruitment exercises (Heavy squats), increases muscle mass and lipolysis

Also, understand the hormones that impact glucose metabolism and hormones that increase fat metabolism (Especially how cortisol is good and bad for fat loss). Additionally, understand how anabolic steroids work and their potential side effects.

Learning Activity 4.1: Hormones and Exercise
Programming for Weight Loss:

- **BMI** = Weight(Kg)/ Height(M²)
- **Energy Balance** = calories in vs. calories out
- Review notes for the hormones that impact fat metabolism.
- Understand option to program for traditional, hybrid and progressive clients

Learning Activity 4.2: Key Points in Programming for Weight Loss

Programming for Lean Body Mass:

- **Hypertrophy**: Increase in size of muscle fibers from an increase in the number or size of myofibril proteins, which requires:
  - Micro damage to the tissue to stimulate repair
  - Increase in protein synthesis
  - Increase in anabolic hormones (Testosterone, growth hormone and IGF-1)
- In the 30 to 90-minute post workout window consume carbs and proteins to boost recovery.
- Best stimulated by high volume exercise at 70-85% intensity level
- There are different ways to program structure here such as total body or split, so always consider the client preferences and style when choosing a design.

Learning Activity 4.3: Key Points in Programming for Lean Body Mass

Programming for Wellness:

Wellness clients mainly want to move and feel better making their everyday life easier and less stressful. Examine the different ways we can program for different styles of clients.

Learning Activity 4.4: Key Points in Programming for Wellness

Programming for Sports Conditioning:

This is defined as a systematic prep process that has maximum transfer to a specific sport/activity. It is made up of two aspects: Training (Enhance physical/mental condition) and Practice (Perfecting technical skills). An in depth needs analysis is crucial to understanding how your program can best transfer over to their sport. Familiarize yourself with the considerations, principles of exercise prescription, periodization, variable components and styles.

Learning Activity 4.5: Key Points in Programming for Sports Conditioning

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What questions on the content do you have? Does this change how you will create programs for your clients?

Learning Activity 4.6: Program Design Goals Chart
Program Design: Components

This step goes over the many different elements that can be used in training sessions and programs aside from the typical exercise portion. Not every component should be used in each session or even with each client, but they’re important tools to have to optimize your sessions physically and mentally.

Self-Myofascial Release:

**SMR** is a **self-directed method** of massage or manipulation of the myofascial tissue. It’s great for **movement prep and recovery** as it alleviates stress that can interfere with movement by releasing muscles and trigger points. Know the **contraindications** for SMR and what areas not to use SMR on. Maximizing the effects of SMR will require a strong understanding of anatomy, the different tools (Foam roller, tennis ball, Trigger Point Kit, etc.) and manipulating body position for optimal pressure.

Stretching:

As we recall from previous steps stretching is controlled by **proprioceptors** (Pacinian Corpuscles, muscle spindles, and Golgi tendon organs) which monitor the changes in muscle length and tension. These are the keys to lengthening muscles, why we should hold stretches for at least **30-60 seconds** and only at levels of mild discomfort. Understand the **characteristics of human motion and flexibility** (Tri-planar, gravity infusion, etc.). Consider how flexibility in the different highways (Fascial lines) impacts movement. For example, improving the anterior or frontal line will improve posterior or extension movements. Understand which areas are built for **stability** (Shoulder girdle, lumbar spine and knee) and which are built for **mobility** (C-spine, T-spine/scapula, hip and ankle) and the **relationship** many of these areas have. Once you understand this, focus on how to put it together in a session.

Mobilizers:

**Mobilizers** are simplistic movements used as tools for creating **better extensibility** in areas that have become overactive in an integrated manner through various stressors. Basically, they are dynamic stretches that help areas move that most people typically have issues with (Thoracic spine, ankles, hips etc.). This also trains **mobility and stability together** making it an excellent warm-up tool. Knowing the **principles of mobilizers** will help you explain their purpose to
clients and know what to look for when clients perform them (Body is a reactor, communication, multi-planar, activates downregulated complexes and challenge stability). In addition to preparing the body to move consistently, performing mobilizers allows the coach to assess movement quality each day and modify the session as needed.

Review the various mobilizers to gain an understanding of how the body is integrated and how you can use these movements with clients.

Learning Activity 5.1: Mobilizers and SMR

Core:

There are countless definitions when someone is asked what the core is. The old answer broke it down into muscles, the new answer focuses on how a vast array of muscles connect through the trunk. These two views were developed by these researchers:

- **Panjabi**: Theorized there is a “neutral zone” in the spine in which the myofascial system was much more responsible for providing support and controlling motion
- **Bergmark**: Said we need to look at the structure and properties of muscle when considering its function

The truth is both of these should be combined for a *holistic* view: the core is made of layers that all interplay and tie into the entire body.

Understand the main function and purpose of each category of core muscles: **Local stabilizing**, **global stabilizing** and **global mobilizing muscles**. The muscles can also be classified into the **Inner Unit** (Multifidus, TA, Pelvic Floor, Diaphragm and Internal Oblique) and **Outer Unit** (Global muscles and visible muscles such as glutes, outer abs, arms and legs).

Training the core shouldn’t only consist of performing an exercise to target a specific muscle but rather training the core as a whole using movement. When prescribing core training, consider **Range of Motion (ROM)**, **Speed of Motion (SOM)**, **Plane of Motion** and **leverage**. As Rodney says “Know why you’re doing it, and what the response is that you’re getting from it.”

Learning Activity 5.2: Core: Regressions and Progressions

**RAQS & Games:**

Know what each RAQS is, examples, how to progress them and their benefits. Many “games” consist of using the RAQS in an interactive or play form that engages the client.

**Reactive**: Rapid lengthening of the myofascia followed by a rapid shortening (Loading to unloading)
Examples: plyometrics/jumping
- Shown to improve force, bone density and decrease ACL injuries

**Agility:** Ability to accelerate, decelerate and change direction with control and alignment
- Examples: running/shuffling in all planes of motion (Cyclical motions)
- Center of mass is constantly changing and moving through the body, helps decrease injuries in joints

**Quickness:** Ability to react, change body and/or limb position in shortest amount of time
- Examples: speed ladder, reacting to feedback (Catching a ball, calling out a number)
- Can combine with other RAQS (Catch a ball while using ladder and calling out color)

**Speed:** Velocity a person has in any given direction
- Example: Sprinting (Acceleration, transitioning and top speed phases)
- Determined by stride rate, stride length and amount of force applied to the ground

**Cardio (Energy System Development):**

All movement is ESD, and all movement is resistance training. What this means is that no matter what we do we are using an energy system, and we are overcoming resistance when moving. We have various energy systems and gears which influence how we get energy, how long we can last and the recovery needed. We need to match the demand of energy systems with the demand of the movement. For example, an endurance runner shouldn’t focus on training max squats but would benefit from high rep, low rest sets of squats. Remember to use the SAID Principle (Specific Adaptation to Imposed Demands) when programming for ESD. The lecture shows great examples of programs to train for different goals.

Remember that carbs, fats and proteins can all be converted to energy (ATP), but how it happens and when it happens varies greatly. How the body gets energy depends on the length and intensity of exercise.

There are three main types of ESD: continuous, interval and fartlek. Examine how energy is used and the heart rate intensities that correlate specific gears. It’s important to note that low intensity cardio does use a higher percentage of fat for energy however intervals burns more total calories. Thus, it can’t be said that low intensity cardio burns the most fat. Remember, Energy Balance is calories in vs. calories out, this is what matters for weight loss.

When developing a program, we should also examine what the limiting factor or adaptation is we’re getting. Look at Heart Rate Recovery (HRR), cardio strength (Central), local strength, local endurance and recovery/regeneration.
When programming, always consider those factors and what the outcome will be: Movement demand + Acute Variable = Specific Adaptation (SAID Principle)

Know that you will have to constantly manipulate and tweak the acute variables. Observe the performance and see how the client feels to know when to progress, regress or change the program to get a different adaptation.

Learning Activity 5.4: ESD

Recovery and Regeneration:

We need to remember that training is a stress. If stress levels are low when we’re not exercising, then we can recover, come back stronger and stress the body again. However, if overall stress levels stay high then the body doesn’t recover well, and the adaptation will be subpar. In each session evaluate all sources of stress for your clients: environmental, psychological/social, physiological/biochemical and anatomical/structural.

Ask yourself, “Am I adding stress to an already stressed body and mind resulting in the client leaving feeling worse than when they started?” If a someone does something that makes them feel worse, they won’t keep doing it, and a client will be lost.

At a physiological level too much stress leads to a decrease in performance called overreaching (short term decrease) and/or overtraining (long term decrease). Regardless, if the client continues to train during these unpleasant periods, their results will be poor, and they’ll discontinue due to that.

This is where understanding recovery/regeneration is important.

Recovery: physiological and psychological recovery from a session/competition (Ice bath, massage, mobility session, SMR etc.)

Regeneration: planned unit to promote total body recovery (De-load week, tissue quality phase etc.)

If a client comes in physically drained and stressed, you may need to throw out your plan for the day and focus on recovery like SMR, mobility, easy games and low intensity aerobic activities. The client will be leaving feeling better, have an opportunity to recover well and come back next time ready to workout. If you constantly challenge your client, you’ll need to plan for a short period of regeneration, so they can fully recover and continue to train hard. Be sure to review the different methods for improving recovery/regenerations (Lifestyle/psychological, structural and circulatory).
Client Notes:

In addition to writing down weights and reps, we should always be taking notes **before, during and after workouts**. This way we can modify the current session and plan better for future sessions. This creates communication with clients as well as a legal record. Here is a quick guide to taking client notes:

**Pre-workout: Comments/complaints**
- Subject info (pain, problems, stress....)
- Use client's own words
- List modification to be made

**During workout: Client performance**
- Observation, how they are moving/reacting
- Ensures workout matches client’s ability for that day
- Notate any modifications made to workout

**Post-workout: Next Workout “To Dos”**
- Plan for next workout, things to consider
- List any follow-up needed or questions to ask at next session

Taking notes is vital to **long term success**. Not only can you improve on every single session but you can **track patterns**. For instance, if a client comes in everyday complaining of shoulder pain, if their squat has to be modified or if they mention they didn’t sleep much, these are all things you need to address and help the client with. There are simply too many clients with too many unique situations to memorize; you must take organized notes to be successful.
Program Design: Development

Up to this point, we have put a lot of focus into behavior change. This section considers the client's personality but really goes into the science of program design. This is a step you must master to effectively create a program for your clients. Behavior change is vital, but we must also create a program that allows clients to be successful and train specifically to their goals.

It’s important to practice using the Program Design Tool (PDT) to understand how to select a program and to see how the programs progress or vary. The Program Design Questionnaire (PDQ) we learned about earlier is integral to determining the program. Pay special attention to how to pick each variable of the PDT and understand the science (Physics and physiological adaptations) of why the phases are structured the way they are.

**Learning Activity 6.1: Program Design Tool (PDT)**

**Purpose of Program Design Development:** Serves as a guide when developing a program for clients through visual and tangible means including:

1. Organizing the science of program design
2. Categorizing clients into appropriate goal, ability level and style of training
3. Delivering the best program for them

Remember, that these programs like any program are only templates. We should always make adjustments as needed to best serve the client. We can organize and structure these programs with this process:

- **Principles:** The “Why,” science
- **Strategies:** The “What,” set-up/design
- **Techniques:** The “How,” Do

**Overall Model Structure**

- 3 phases of training
- Client’s goal
- Level of the client’s ability
- Style of training

**3 Phases of Training (4 Weeks)**

1. **Sensorimotor**-emphasis on execution of the movement and coordination
   - Progress through increasing proprioceptive challenge (Unilateral, reciprocating, less stability etc.)
   - Decrease amount of external or passive stability of the exercise
   - Little emphasis on heavier loads or high speed motions, focus on movement quality and diversity in planes
2. Force
   - Increase acceleration and deceleration capabilities
   - Increase mass (Weight), volume and functional speed & load
   - Increase functional speed and load
   - Increase overall volume

3. Power - increase load, volume and/or overall speed of movement
   - Involves transitioning movement and/or changing directions faster and/or under heavier loads

The notes and lectures do a great job of explaining why this is the order of phases in the PDT. These are important science concepts to know in order to truly understand the phase order:

**Force = Mass x Acceleration**
   - Force is increased by the weight used, the speed of movement or both (Acceleration can increase force as much or more than mass)

**Mass**: measurement of the inertia of that object
   - Inertia is resistant to change whether still or moving, to change inertia a greater force must be applied

**Power = Force x Velocity**
   - Since force is a component of power, it makes sense to train force before power.

**Velocity**: magnitude of speed in a particular direction or how fast something is moving

**Momentum = Mass x Velocity**
   - Tendency of an object to keep moving in its direction of travel, remains constant unless acted on by another force
   - Means there is no right or wrong exercise, just change in the forces involved
   - Use momentum to assist or resist movement

**Gravity**: measure of acceleration and result of attraction between two masses (Earth and body)
   - Always consider if movement is gravity assisted or resisted

**Ground Reaction Force**: the force supplied by the ground to the body; works directly in response to the force the body exerts onto the ground

4 Goals:
Understand the purpose of each goal and how to determine the goal using the Step 1 Exploration Questions from the PDQ.
   - **Weight Loss**: Lose fat or reduce body weight
   - **Wellness**: Better Ability to move (Flexible, play with kids etc.)
   - **Lean Body Mass (LBM)**: Increase muscle mass, tone or get bigger
   - **Sports Conditioning**: Enhance level of performance
Clients can be a mix, but there should always be an overall goal, otherwise it’s hard to progress towards something. Many clients are in the weight loss category. As we get older or train more, wellness goals tend to take hold as we just want to feel good and move effortlessly. No matter the goal everyone will benefit from a small wellness focus. The better we move, the better we perform.

**3 Training Styles:**
Understand the differences and how they impact the program. We determine style using the **Step 2 Criterion PDQ questions**
- **Traditional:** Linear, muscle-based training, tends to be part specific, uniplanar movements with body supported positions and/or fixed path of motion (Bench press, cable row etc.)
- **Progressive:** Movement based training, total body multi-planar motions with minimal fixed surfaces and body supported positions (Lateral lunge with curl to overhead press etc.)
- **Hybrid:** Combination of progressive and traditional

Another way to think about this is, how adventurous someone is willing to be with their program? Do they want to stick to the basics or explore the possibilities of movement?

**3 Client Levels:**
Understand how to determine client ability level. We determine level using the **Step 3 Investigative PDQ Questions**.
- **Lead Off:** Sedentary, minimal to no regular exercise
- **Transitional:** Exercises occasionally, maybe has a decent exercise history
- **Go-Ahead:** Has exercised regularly for a substantial period of time

**Quick Review for Navigating the Model**
Start by taking clients through the PDQ and use the answers to select the appropriate program.
1. Select overall goal (Weight loss, LBM, Wellness, Sports)
2. Choose client level (Lead off, transitional, go-ahead)
3. Choose training style (Traditional, progressive, hybrid)
Download the Programming System presentation notes. There will be questions on Gears and Goals.

The Gears and Goals helps us to ensure we put our clients under the appropriate amount of metabolic stress. This chart is incredibly helpful to determine if the metabolic stress is appropriate and to determine what we need to focus on with the client:

5 Main Goals: Use these for session or overall objective for the program

- **Heart Rate Recovery**: The ability to stress the metabolic system to or above anaerobic threshold, then recover and repeat.
- **Cardiac Strength**: This is an increase in ability to consume and utilize oxygen.
- **Local Power**: The ability to sustain power at a certain intensity (gear) in a certain region of the body (Ex. legs for cycling).
- **Endurance**: The overall capacity to sustain exercise at a particular intensity for prolonged periods of time.
- **Recovery and Regeneration**: The ability to metabolically return to a normal state following a bout of exercise. Gears 1-2 (55-65%) is an optimal region for recovery.
Learning Activity 6.2: Gears and Goals

The Programming System notes provide great examples of sessions with different goals. Read them and see if you find the connection between the examples and the components of the Gears and Goals.

This chart is another great guide for getting down to the details of the program and how acute variables differ based on goals and phases:

<table>
<thead>
<tr>
<th>Gear</th>
<th>HR % (VO2%)</th>
<th>Energy system</th>
<th>Non-stop, non-refuel duration limit (minutes)</th>
<th>Outcome</th>
<th>Goals</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>50-60</td>
<td>M. Glycogen/Lactate (Aerobic)</td>
<td>3,000</td>
<td>Base</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>60-70</td>
<td>M. Glycogen/Lactate (Aerobic)</td>
<td>45-60</td>
<td>Endurance</td>
<td>Aerobic</td>
</tr>
<tr>
<td>3</td>
<td>70-80</td>
<td>M. Glycogen/Lactate (Aerobic)</td>
<td>30-45</td>
<td>Fitness</td>
<td>OR</td>
</tr>
<tr>
<td>4</td>
<td>80-90</td>
<td>ATP-PCM, Gly (Anaerobic)</td>
<td>10-20</td>
<td>Performance</td>
<td>OR</td>
</tr>
<tr>
<td>5</td>
<td>90-100</td>
<td>ATP-PC (Anaerobic)</td>
<td>1-6</td>
<td>Max performance</td>
<td>Anaerobic</td>
</tr>
</tbody>
</table>

### Acute variables for goals and phases

<table>
<thead>
<tr>
<th>Wellness</th>
<th>Sports conditioning</th>
<th>Weight loss</th>
<th>Lean body mass</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sensorimotor</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>S:</strong> 1-3</td>
<td>1-3</td>
<td>1-3</td>
<td>1-3</td>
</tr>
<tr>
<td><strong>Rp:</strong> 8-26</td>
<td>8-26</td>
<td>8-26</td>
<td>8-26</td>
</tr>
<tr>
<td><strong>Tm:</strong> 15-60secs</td>
<td>15-60secs</td>
<td>15-60secs</td>
<td>15-60secs</td>
</tr>
<tr>
<td><strong>I:</strong> Low (~ BW-70%)</td>
<td>Low (~ BW-70%)</td>
<td>Low (~ BW-70%)</td>
<td>Low (~ BW-70%)</td>
</tr>
<tr>
<td><strong>T:</strong> Slow/moderate</td>
<td>Slow/moderate</td>
<td>Slow/moderate</td>
<td>Slow/moderate</td>
</tr>
<tr>
<td><strong>Rt:</strong> 0-60secs</td>
<td>0-60secs</td>
<td>0-60secs</td>
<td>0-60secs</td>
</tr>
</tbody>
</table>

| Force | | | |
|-------|----------------|----------------|
| **S:** 2-8 | 2-8           | 2-8            |
| **Rp:** 1-12 | 1-12          | 1-12           |
| **Tm:** 10-60secs | 10-60secs   | 10-60secs      |
| **I:** Medium (~70-85%) | Medium (~70-85%) | Medium (~70-85%) |
| **T:** Moderate/fast | Moderate/fast | Moderate/fast |
| **Rt:** 0-3mins | 0-3mins       | 0-3mins        |

| Power | | | |
|-------|----------------|----------------|
| **S:** 2-8 | 2-8           | 2-8            |
| **Rp:** 1-12 | 1-12          | 1-12           |
| **Tm:** 5-45secs | 5-45secs    | 5-45secs       |
| **I:** Low <= high (~ BW-100%) | Low <= high (~ BW-100%) | Low <= high (~ BW-100%) |
| **T:** Fast/explosive | Fast/explosive | Fast/explosive |
| **Rt:** 0-3mins | 0-3mins       | 0-3mins        |

**S = Sets  Rp = Repetitions  Tm = Timed Movement  I = Intensity  T = Tempo  Rt = Rest**
Duration Limit: “Gas tank,” has a huge impact on all aspects of the client and will determine what they’re capable of and how they’ll feel after the workout. Consider how recovery time varies based on the body’s reaction to stimulus and how to create a program that follows these recovery rates.

- Many variables can impact recovery such as: hydration, nutrition, sleep, stress, intensity of previous sessions.

<table>
<thead>
<tr>
<th>Neurophysiological attribute</th>
<th>Minutes</th>
<th>Hours</th>
<th>Days</th>
<th>Weeks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Muscle creatine phosphate</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lactate breakdown</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fluid balance, liver and muscle glycogen</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Immune system and cognition</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

You may recall we went over the 3DC and how we can manipulate movement. Here is a quick review of the best ways to manipulate movement for a client based on their style. This is very helpful for on the fly modification of a program. **You need to know this:**

<table>
<thead>
<tr>
<th>Traditional</th>
<th>Progressive</th>
<th>Hybrid</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Beginning position</td>
<td>1. Triangulation/environment</td>
<td></td>
</tr>
<tr>
<td>2. Driver</td>
<td>2. Beginning position/drive</td>
<td></td>
</tr>
<tr>
<td>3. Triangulation/environment</td>
<td>3. Triangulation/environment</td>
<td></td>
</tr>
</tbody>
</table>

In the Program Design section, Scott Hopson puts into perspective the order of everything we have learned thus far, as the process of program design.

Learning Activity 6.3: The Process of Program Design
Group Training

This section on group training is not about the usual group exercise classes at gyms. This step is referring to a non-choreographed small group session with 3+ people focusing heavily on individualization.

How to Facilitate a Group:

What people want in group personal training (Non-choreographed exercise class):

1. Answers
2. Plans/directions
3. Guidance
4. Supervision
5. Results
6. Adherence
7. Fun
8. Atmosphere
9. Relationship training

The biggest difference between group training and a private session is managing the classroom.

In structuring a session, it is important to be well-organized in order to achieve results. Plan/map out the workout with proper progressions, so the workout has good flow and you appear professional.

There are several advantages of training multiple clients over just working one-on-one. Some of the key advantages are:

- Make more money per hour
- More affordable for clients
- New market
- Camaraderie/ Team atmosphere to drive motivation

There are several challenges of training multiple clients as well. Some of these are:

- Less one on one time
- Disparate abilities-defining level-appropriate challenges
- Classroom management – safety, progressions, intensity, flow
- Requires more organization/planning time
Considerations for Program Design:

- Time
- Location
- Client’s individual needs
- Equipment
- Number of participants

General Structure of a Group Training Session:

1. Have space and equipment ready
2. Meet, greet and prompt clients to get ready for workout
3. Know your training paradigm for consistent and logical curriculum
4. Get active right away with dynamic warm-up and discuss workout goals, primary focus and day’s challenge
5. Graduate activity to more complex coordination and exercise intensities
6. Segue seamlessly into bulk of training session
7. Finish with stretch and acknowledgement, plant seed for next workout, exiting with between-workout homework

Tips for Weight Training Multiple Clients:

- Set up multiple equipment
- Have clients help rotate equipment
- Spend some time setting up-explaining
- Rest phases-use to set up next series with clear instruction
- Use pairings and subgroups to manage equipment and space while keeping active
- Can lead by doing while entire group lifts
- Active coaching-walk the room, concise cueing, see the entire room at all times
- Error detection-make corrective instruction available for entire group
- Spotting-how? Use closed chain exercises-partners-active coaching
- Use time instead of counting
- For sets/reps-trainer doesn’t count, participant does
- State tempo of lift
- Know modifications
- Never have one person standing around
- Plan, keep it simple, be organized, keep it moving
- Don’t overanalyze!
Group Training Solutions:

Use the PTAG tools to effectively create, monitor and modify group sessions:
- **PDQ**: Know their ability level so we can adjust intensity, program progression and pair people appropriately
  - Assign people numbers based on style to pick appropriate exercise

Learning Activity 7.1: Personalizing Group Training
- **MOVE Appraisal**: help to target specific areas on a client that may limit their movement
- **Dr. O**: Assess how everyone is doing that day so you can ensure they leave feeling better than when they arrived
  - Identify red flags
- **3DC**: creates engagement, teamwork and autonomy. Easily manipulate exercises.
  - **8 Unique Ways to Program Movement using 3DC:**
    1. Warding
    2. Games (competition/play)
    3. Mirroring
    4. Give and go
    5. The timer (circuit)
    6. Relay races (internal/external)
    7. Group challenges (internal/external)
    8. Whistle blower

Learning Activity 7.2: Programming for Group Training
- **Gears**: Set goals to reach certain gears (Heart rates) using ESD and explain recovery
  - Use this to ensure exercises and intensities are selected appropriately and clients are actually training in those gears

Learning Activity 7.3: Individualizing Intensity in Group Training
- **Kaizen 6**: Assess client satisfaction during and after the session and program as a whole
  - **During Session**
    - Body Language
    - Ask on a scale of 1-10
  - **After Session**
    - Bio-feedback scores (Did they reach the intensity they wanted)
    - Ask questions (Favorite exercises, why etc.)
    - **Body Language**: attitude and conversations as they leave

Review the notes from programming solutions to see a summary of group training and process for implementing and using these tools.

Learning Activity 7.4: The Group Training Process
Prospecting:

Process for prospecting on the floor: Use critical factors to maximize process (1. Know your outcome, 2. No encounter is insignificant & 3. First impressions are everything)

- **Engage**: Connect with the member
- **Service**: Provide a measurable service
- **Follow-up**: Examples are thank-you notes, follow-up calls, 10 minute conversations

Keys to Connecting:
1. **Empathy**: seek to understand them
2. **Humility**: focus on them
3. **Listen**: let them do the talking

Two types of prospecting and how to use them:

**Responsive Engagement**: an encounter generated by someone or something else
1. Be visible and active (Be on the floor and engaged, don’t hang out in the office)
2. Be consistently cordial (Always say hello, say their name, shake a hand)
3. Be encouraging (Thumbs up, nice job etc.)

Learning Activity 8.1: Responsive Prospecting

**Proactive Engagement**: a situation where the fitness professional actively approaches a member
1. Introduction (See example script in notes)
2. Provisions (Bring them something that will help with workout like towel, water, unload weights)

Learning Activity 8.2: Proactive Prospecting

Client Orientation:

**Client Orientation**: Interviewing or integrating a member into the facility or into personal training

Optimal Interviewing Principles:
1. Never argue with a member
2. Always validate the member
3. Ask a question when unsure

**DO:**
- Focus the conversation on the benefit to the member
- Listen attentively without interrupting
- Allow the member to arrive at their own conclusions
- Work with the member to find solutions
- Paraphrase using the member’s language

DON’T:
- Argue or confront the member about their beliefs
- Interrupt
- Speak more than you listen
- Talk on about your services, education qualifications

Learning Activity 8.3: The Process of Client Orientation

Client Retention:

10 Keys to Client Retention:
1. Market to existing clients: focus on people you already have and right to keep them
2. Consistency: give them a service they can trust
3. Follow through: do what you promised
4. Solicit Feedback: find out what they think
5. Focus on their reason: identify emotional anchor why they want to train with you
6. Be a life resource: find ways to influence their lives outside the facility
7. Have fun
8. Connect: focus on relationship and rapport
9. Reward frequency and total monetary value
10. Deliver results

Learning Activity 8.4: 10 Keys to Client Retention

Summary of Client Retention:

<table>
<thead>
<tr>
<th>Step 1:</th>
<th>Know your 10 keys to client retention</th>
</tr>
</thead>
<tbody>
<tr>
<td>Step 2:</td>
<td>PDQ Kaizen-6</td>
</tr>
<tr>
<td></td>
<td>The PDQ and the Kaizen-6 collectively establish and sustain rapport, build trust and lay the foundation for a healthy client relationship and, ultimately, client retention.</td>
</tr>
<tr>
<td>Step 3:</td>
<td>PDT Gears</td>
</tr>
<tr>
<td></td>
<td>The PDT and Gears will heighten the consistency, enjoyment and efficacy of your client’s overall program.</td>
</tr>
<tr>
<td>Step 4:</td>
<td>3DC</td>
</tr>
<tr>
<td></td>
<td>Using the 3DC to manipulate exercises according to your client’s style will also show them you are consistently focused on delivering results through enjoyment.</td>
</tr>
</tbody>
</table>
Approaching Clients on the Gym Floor:

There are great examples of how to approach clients on the floor effectively and help them. See the presentation notes with Feature vs. Benefit Chart.

Learning Activity 8.5: Applying the Feature vs. Benefit Chart

5 Steps to Increase PT Revenue:

1. Initial service approach (Risk and fear are primary reasons for lack of openness)
   - Be approachable, professional, and service oriented
   - Focus on service rather than science
   - Attend to all their needs
2. Provide a measurable service
   - Second point of contact should take place quickly
   - Carry something to take notes on
   - Refer to continuing education you’ve been working on
     - Determine what member is trying to achieve
     - When making a recommendation, focus on benefit member gets
     - Do not try to persuade them to do something else
3. Send a thank you card
4. Follow-up call
5. Schedule a ten-minute follow-up conversation

Remember: Some will, some won’t, some wait. Always stay positive and start off conversations fresh. Some people are simply not ready to change, they may not even know they need to. That’s a lot to process and a lot of emotion. We can’t expect everyone we go up to for the first time to sign up for coaching. However, if we continually build and develop relationships with our members it will make prospecting much easier. The more members you know and the more know that you can help them the more clients you’ll get. It takes time to build a full schedule. You have to put the time in engaging members even when you’re full.

Disclaimer:
*This study guide was created by Raphael Konforti, CPT / BSBA / MS - Exercise Science, and is intended for use by PTA Global.
*The Activities were created by Mindilyn Jorgenson, CPT / BS HESS - Fitness and Sports Management, and are intended for use by PTA Global.
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