UNLOCKING COGNITIVE HEALTH FOR ALL WITH FUNCTIONAL FITNESS

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NIRSA + IDEA WORLD

Focus on What Matters: People, Play, Purpose

ABOUT

- **International Presenter and Leading Trailblazer in Fitness for Active Aging.**
- **Specializes in:**
  - Program Design & Implementation
  - Cognitive Brain Movement
  - Class Implementation for Parkinson's and Alzheimer's Clients
  - Low Impact Movement
  - Chronic Fitness Solutions

- Fitness Supervisor in Senior Living Homes
- CEO of FUNctionally EVOLVED

Award-Winning Fitness Professional:

- 2026 IDEA Instructor of The Year Nomaniee
- 2025 Coach 360 Fitness Visionary Nominee
- 2024 IDEA Emerging Trailblazer of the Year
- 2024 Coach 360 Top 24 Coach of the Year
- 2020 LA Fit Expo Wow The Crowd Winner

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PURPOSE

The purpose of this workshop is to help you, as fitness professionals, expand your impact beyond muscles and start training the most powerful system in the human body, “THE BRAIN!”

- **Improve how your clients think while they move**
- **Build confidence through cognitive success**
- **Create programs that reflect real-life demands, not just gym exercises**

LETS TALK ABOUT REALITY

Not a fitness question... A life question!

Discussion Prompt:
“What is one moment where you noticed your client struggling mentally during movement?”

Examples:

Forgetting exercise sequences

Losing balance when distracted

Getting confused during transitions

Slowing down when asked to think and move

LETS TALK ABOUT REALITY

What you just shared… that’s cognitive fitness.

Not reps. Not sets. Not heart rate.

That’s the brain trying to keep up with life.

Your clients don’t live in perfect reps. They live in unpredictable environments where they must:

- Think
- React
- Adjust
- Move safely

And if we’re not training that,

we’re not fully preparing them for life.

LETS TALK ABOUT REALITY

Activity

Stand up. Close your eyes.

+ March in place.

Now Spell Your First and last Name

THAT'S THE BRAIN BEING CHALLENGED.

LETS TALK ABOUT REALITY

THAT'S THE BRAIN BEING CHALLENGED.

THAT'S EXACTLY THE POINT.
YOUR BRAIN HAD TO DO MULTIPLE THINGS AT ONCE.

Activity: Brain Wake Up

THE RULES

IF I SAY THE NAME OF AN ANIMAL, YOU CLAP ONCE.

IF I SAY THE NAME OF A FRUIT, YOU PERFORM ONE SQUAT.

DOG

APPLE

ELEPHANT

BANANA

LION

PEAR

CAR

STRAWBERRY

GIRAFFE

CHAIR

MANGO

HORSE

WORKSHOP OBJECTIVES

1. Understand Cognitive Fitness

2. Apply Dual-Task Training

3. Design Brain-Based Workouts

4. Coach Cognitive Confidence

5. Translate to Real Life

SO WE'RE NOT JUST LEARNING EXERCISES TODAY; WE'RE UPGRADING HOW WE COACH.

WHAT IS REAL FITNESS?

- For too long, we've measured fitness by how someone performs in a controlled environment:
  - Perfect squat form
  - Controlled reps
  - Predictable movement

WHAT IS REAL FITNESS?

Life doesn’t happen in perfect reps.

- Life happens in unpredictability.

Real fitness is not about how well someone moves when everything is controlled....

- It’s about how well they move when things DON’T go as planned.

REAL FITNESS IS THE ABILITY TO FUNCTION UNDER PRESSURE

EXPANDED LIFE SCENARIOS

- CROSSING A BUSY STREET WHILE CARS ARE COMING
- AVOIDING SOMEONE WALKING TOWARD THEM WHILE TALKING
- CATCHING THEMSELVES WHEN THEY TRIP ON UNEVEN GROUND
- TURNING QUICKLY WHEN SOMEONE CALLS THEIR NAME
- WALKING THROUGH A CROWDED RESTAURANT WHILE CARRYING A PLATE
- STEPPING OFF A CURB WHILE LOOKING AT TRAFFIC
- REACHING FOR SOMETHING WHILE BALANCING
- GETTING UP QUICKLY WHEN THE PHONE RINGS

In every one of those moments...

- **Their brain is making decisions in real time.**
- **Their body has to react instantly.**
- **If that system isn't trained, that's where accidents happen.**

INTERACTIVE ACTIVITY

ACTIVITY 1: DIRECTION CHAOS

- START WALKING AROUND THE ROOM
- KEEP YOUR HEAD UP, STAY AWARE
    - RULES:
        - EVERY TIME I CLAP:
            - YOU MUST CHANGE DIRECTION IMMEDIATELY.

CHALLANGE:

- **CLAP ONCE - CHANGE DIRECTION**
- **CLAP TWICE - STOP AND 1 LEG BALANCE FOR 3 SEC.**
- **CLAP THREE - 4 JUMPING JACKS**

TEACHING POINT

YOUR BRAIN HAD TO...

- PROCESS SOUND
- MAKE A DECISION
- CHANGE DIRECTION
- CONTROL YOUR BODY

ALL IN SECONDS.

ACTIVITY 2:
DISTRACTION WALKING”

- STAY WALKING
  - GOING TO ASK YOU QUESTIONS WHILE YOU MOVE.

- WHAT DID YOU EAT FOR BREAKFAST?
- NAME 5 ANIMALS.
- WHAT’S YOUR FAVORITE WORKOUT?

What happened to your movement?

- Slower
- Less stable
- Less aware

TEACHING POINT

- When the brain is distracted
  - Movement quality drops.
  - This is EXACTLY when falls happen in real life.

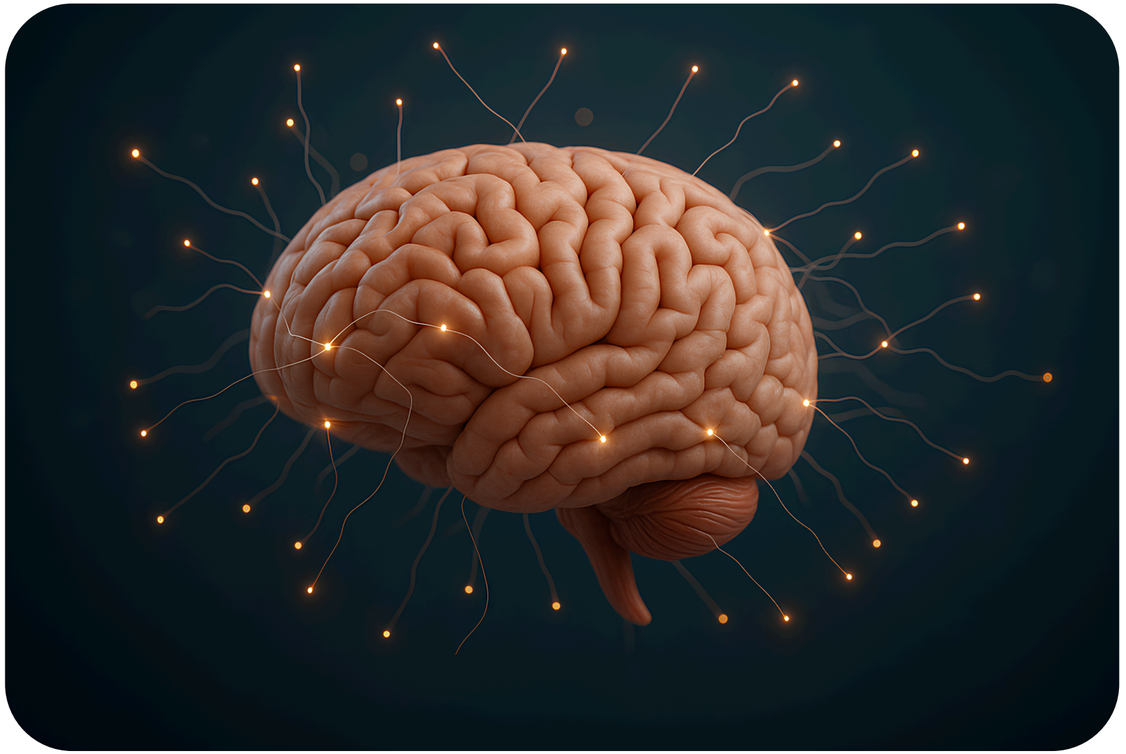
If your workouts don’t include:

- Decision making
- Reaction
- Unpredictability

Then your clients are not fully prepared for life outside your class.

Why Cognitive Fitness Matters

- The brain is the most complex organ in the human body.
- It contains roughly 86 billion neurons.
- These neurons communicate with each other through electrical and chemical signals.
- Every movement we perform, every thought we have, every memory we store involves communication between these neural pathways.



BRAIN SCIENCE SIMPLIFIED

- Your brain controls EVERYTHING.
- Every step you take… every reach… every balance correction…
- All starts in the brain.
  - And when the brain slows down…
    - Everything slows down.

The Brain has 3 main jobs during movement:

1. Perceive → What's happening around me?
2. Process → What should I do?
3. Produce → Execute the movement

EXPANDED REAL-LIFE ISSUE EXAMPLES

Example 1: Reaction Delay

Client trips on the carpet.

Fast brain = quick recovery

Slow brain = fall

Example 2: Coordination Breakdown

Client is walking and turns their head.

- Loses rhythm
- Steps get uneven

Example 3: Hesitation

Client steps off a curb.

- Pauses
- Misjudges
- Loses confidence

Example 4: Overload Moment

Client in a group class:

- Music playing
- Instructor cueing
- Movement changing

Brain overload → freezes or stops

Example 5: Conversation Interference

Client walking and talking:

- Slows down
- Stops walking

(You'll see this ALL the time in older adults)

THIS IS NOT A STRENGTH ISSUE

THIS IS PROCESSING SPEED.

ACTIVITY 1: Delay = Danger

- Walk around the room.

Rules:

- When I say, Green = Clap once and balance on one leg.
- Red = Clap twice and give me 3 squats
- Yellow = Clap 3 times and give me 4 lunges

Coaching Breakdown

What happened?

- Some reacted late
- Some lost balance
- Some guessed wrong

That delay is the difference between catching yourself… or falling.

ACTIVITY 3: Brain Traffic Jam

- Stand still

Rules

- Tap your right hand on your leg.”
- Now tap your left hand on your head.”

Switch it

“Now SWITCH.”

Add Cognitive Load

- Count backwards from 20
- Name Veggies that are Red and Yellow

Coaching Breakdown

When the brain is overloaded,
Coordination breaks down

SIMPLIFY THE SCIENCE

You don’t need to be a neuroscientist to train the brain.

You just need to create moments where your client has to:

- Think
- Decide
- React

Strength helps you move
But your brain determines:

- How FAST you react.
- How SAFE you move.
- How CONFIDENT you feel.

COACHING TAKEAWAYS

If your client...

- Moves well until distracted
- Slows down when thinking
- Freezes during changes

You are looking at a brain training opportunity.

EXTRA EXAMPLES FOR TRAINERS

Use these in classes:

- March + name colors
- Squat + solve math
- Step + spell words
- Balance + recall list
- Walk + answer questions

Neuroplasticity

- What’s fascinating is that the brain is constantly changing.

This process is called **neuroplasticity.**

Neuroplasticity means the brain has the ability to:

• Reorganize itself

• Create new connections

• Strengthen existing neural pathways

Break It Down Simply

- Every time you learn something new
  - Your brain creates new connections.
- Every time you repeat something
  - Those connections get stronger.
- Every time you stop using something
  - Those connections weaken.

Neuroplasticity

Neuroplasticity improves:

- Balance
- Coordination
- Reaction time
- Memory
- Confidence

This is especially important for older adults because neuroplasticity helps:

- Maintain independence
- Reduce fall risk
- Improve quality of life

EXAMPLES

1) Learning a New Exercise

First time:

- Awkward
- Slow
- Confusing

After practice:

- Smooth
- Faster
- Confident

- That’s neuroplasticity

2) Dance or Choreography

At first:

- Can’t remember steps

Later:

- Moves automatically
- Brain built the pathway

EXAMPLES

3) Driving a Car

First time:

• Overwhelming

Now:

• Automatic

- Strong neural pathways

4) Aging Clients

Client says:

“I used to be able to do this…”

- Brain pathways weakened

BUT…

They can rebuild them

Repeating the same thing over and over

- Builds efficiency

BUT

- Changing the pattern builds the brain.

PRACTICAL COACHING APPLICATION

If you want to train neuroplasticity,

You need to:

- Change patterns
- Add variety
- Introduce novelty
- Slightly challenge coordination

Instead of:

March in place

Do:

- March + direction change
- March + memory
- March + reaction cue

Instead of:

Basic squat

Do:

- Squat + reach
- Squat + turn
- Squat + respond to cue

Neuroplasticity CLASS ACTIVITY – BUILD THE BRAIN

Each group is going to create a short cognitive fitness drill.

You MUST include 3 things:

1. One movement
2. One pattern change (neuroplasticity trigger)
3. One added challenge (thinking or reaction)

M + P + B = Brain Training

- M = Movement
- P = Pattern change
- B = Brain challenge

Example 1

Movement: Step touch

Pattern Change: Forward → Side → Back

Challenge: Name animals

Example 2

Movement: Squat + step

Pattern Change: Add side step after squat

Brain Challenge: Alphabet (A–Z)

BDNF — Brain Derived Neurotrophic Factor

Studies show that regular physical exercise can:

- Increase blood flow to the brain
- Improve memory and attention
- Enhance processing speed
- Stimulate the growth of new neurons in the hippocampus

The hippocampus is a key area of the brain responsible for learning and memory.

BDNF “fertilizer for the brain.”

BDNF helps neurons grow and communicate more effectively.

BDNF — Brain Derived Neurotrophic Factor

When your clients move:

- Their brain releases BDNF

And BDNF helps:

- Grow brain cells
- Strengthen neural connections
- Improve learning and memory
- Increase mental clarity

"Think about your clients..."

- The one who feels foggy in the morning
- The one who struggles with memory
- The one who lacks confidence

Movement is one of the fastest ways to improve ALL of that.

What the Client Says / Feels	What's Happening in the Brain (BDNF)	Performance Outcome	What This Means for Trainers
"I feel sharper after my workout"	Increased BDNF + brain activation	Faster thinking, improved clarity	Exercise boosts mental sharpness immediately
"I feel less stressed"	BDNF + endorphin release	Improved mood, reduced stress	Movement is a powerful mental reset
"I'm picking this up faster"	Stronger neural connections forming	Faster learning + skill acquisition	New patterns accelerate brain growth
"I can think clearer after class"	Increased blood flow + oxygen to brain	Better focus + attention	Movement enhances cognitive performance
"I feel more confident"	Improved brain-body communication	Better coordination + awareness	Confidence comes from brain efficiency

BDNF — Programing

If your workouts include these four things:

- Intensity
- Novelty
- Thinking
- Reaction

You are creating the perfect environment for brain growth

Example Flow

Warm-up → March + arm swings (Intensity)

Add pattern → Step + reach combo (Novelty)

Add brain → Name foods while moving (Dual-task)

Add chaos → Change direction on cue (Reaction)

PROGRAMMING FOR BDNF (BRAIN FERTILIZER)

Workout Style	What You Program	Why It Boosts BDNF	Example Drill
1. Moderate to High Intensity Movement	Continuous movement with increased heart rate (march, step, cardio bursts)	Higher intensity increases blood flow + BDNF release	Fast march + arm swings + direction changes for 60 seconds
2. Novel Movement (New Patterns)	Introduce new sequences, patterns, or coordination challenges	New movements force the brain to adapt and create new neural pathways	Step → clap → reach → turn (then switch order)
3. Dual-Task Training	Combine movement + thinking (memory, math, categories)	Engages multiple brain regions at once → stronger connections	Walk + name animals or count backwards
4. Reactive / Unpredictable Training	Add random cues, direction changes, or decision-making	Trains processing speed + reaction time → high brain activation	Walk and change direction or balance on cue

COGNITIVE LOAD (WHAT IT IS)

Cognitive load is how much your brain is working at one time.

- The brain has limited capacity
- More tasks = more demand
- The right challenge = growth

Your brain gets stronger the same way muscles do, through the right amount of challenge.

HOW COGNITIVE LOAD PERTAINS TO FITNESS

Simple movement = low brain activity

- Challenged movement = high brain activity

- More engagement = better results

Real-Life Fitness Examples

- Marching = low load
- March + counting = moderate load
- March + counting backwards + turning = high load

If your class is too easy mentally, The brain checks out.

DUAL TASK INTERFERENCE (WHAT IT IS)

Dual-task interference happens when the brain tries to do two things at once

And both get worse.

- The brain splits attention
- Performance drops
- Movement becomes less stable

The brain can multitask

But not efficiently.

HOW DUAL TASK INTERFERENCE PERTAINS TO FITNESS

This is where fitness becomes real life.

Real-Life Examples

- Walking + talking → slower walking
- Turning + thinking → loss of balance
- Group class + cues → overwhelm

This is when falls happen, when the brain is distracted.

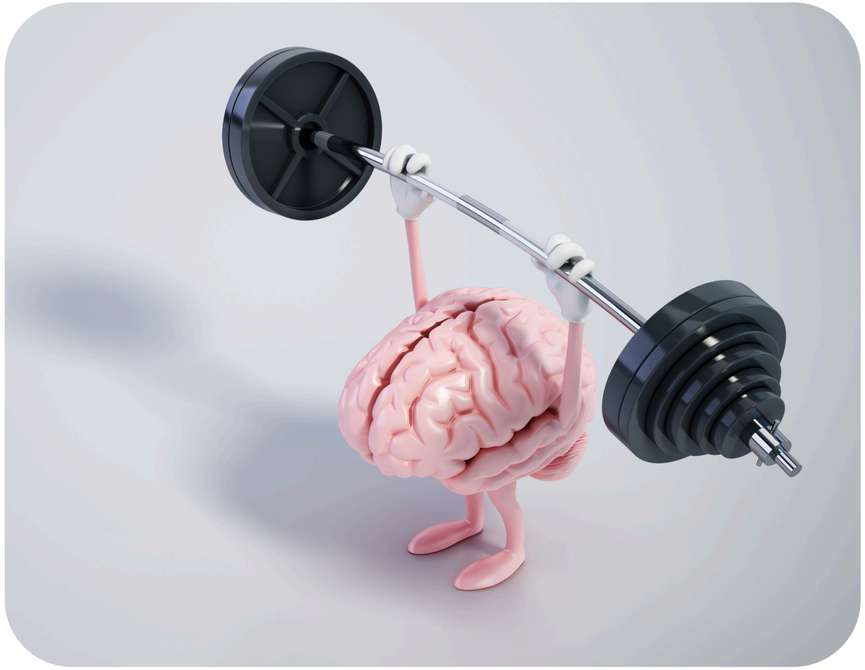
HOW DUAL TASK INTERFERENCE WORKS

When two tasks compete:

- The brain prioritizes one
- The other suffers

What Happens:

- Slower movement
- Delayed reaction
- Loss of coordination
- Increased mistakes



Example
Walk normally → smooth
Walk + name animals → slower

That breakdown, That’s where we need to train

CATEGORY SWITCH CHAOS

Activity 1: Rules

- When you step RIGHT → say a fruit
- When you step LEFT → say a sport

Example:

Right: Apple

Left: Soccer

Activity 2: Progression

Right = animal

Left = city

When I clap → SWITCH

categories immediately.

MEMORY TRAFFIC FLOW

Activity 1:

Dog= Squats

Cat= Lunges

Frog = Jumping Jacks

Activity 2:

Rabbit = High Knees

Lizard = Calf raises

Bird = Hip Circles

OPPOSITE BODY BRAIN GAME

- UP → you squat
- DOWN → you reach up
- LEFT → step right
- RIGHT → step left

WHY THIS MATTERS FOR TRAINERS

If your clients only train in controlled environments,

they’re not ready for real life.

- Life requires thinking + moving
- Distractions are constant
- Reaction matters more than strength

Simple Programming Model

Movement only

Add simple task

Add cognitive challenge

Add reaction

Walk

→ Walk + talk

→ Walk + memory

→ Walk + react

BUILD YOUR OWN BRAIN GAME

Create a fun dual-task activity using this formula:

Movement + Command + Brain + Twist

Movement

Walk • March • Step • Squat

Command

Stop • Go • Turn • Switch

Brain Challenge

Name • Count • Remember • Opposites

Twist

Change rules • Add speed • Add memory

Examples:

1. Walk + Stop/Go + Name animals + Switch rules

2. Step touch + Left/Right + Say opposite colors + Speed up

3. Squat + Numbers + Count backwards + Add pause hold

HOW TO PROGRAM THE 4 LEVEL SYSTEM

Structure:

Start Simple (Level 1)

Layer In (Level 2)

Challenge (Level 3)

Train Real Life (Level 4)

Build → Challenge → Peak → Recover

Reset (Back to Level 1–2)

MICRO PROGRESSION (WITHIN ONE EXERCISE)

Example: Marching

Level 1

March

Level 2

March + count

Level 3

March + count backwards

Level 4

March + react to cues

You don’t need new exercises,
You just need better layering.

HOW TO PROGRESS CLIENTS OVER TIME

WEEK-TO-WEEK PROGRESSION

Week 1

Level 1–2

Week 2

Add Level 3

Week 3

Introduce Level 4

Week 4

Blend all levels

This is how you build confidence, Not overwhelm

HOW TO REGRESS (VERY IMPORTANT)

When Clients Struggle

Drop one level down

Example
Too hard:
March + backwards counting + turning

Go back to:
March + counting

Regression is not failure
It’s smart coaching.

PROGRAMMING FOR DIFFERENT POPULATIONS

Active Agers

- More Level 1–2
- Gradual Level 3
- Short Level 4 bursts

General Population

- Balanced Levels 2–4
- More variety

Cognitive / Neuro Clients

- Repetition + rhythm
- Clear cues
- Slower progression

REAL CLIENT SCENARIOS

Scenario 1: The “Freezer”

Client stops moving when thinking.

Solution:

Reduce complexity

Then rebuild gradually

Scenario 2: The “Rusher”

Client moves too fast and loses control.

Solution:

Slow tempo

Add control cues

Scenario 3: The “Frustrated Client”

Client says:

“This is too hard.”

Coaching Response:

“Perfect. That means your brain is growing.”

WHY COMBINE STRENGTH + BRAIN TRAINING?

Strength training builds the body,

But the brain controls how that strength is used.

Key Points

- Muscles create force
- The brain controls coordination
- Movement quality = brain + body

Strong muscles without brain control,

Still leads to poor movement.

Equipment	Exercise	Cognitive Add-On	Brain Focus	Progression Option
Dumbbell	Goblet Squat	Count backwards by 3	Focus + working memory	Add pause + react to cue
Dumbbell	Shoulder Press	Name animals or foods	Attention + recall	Switch categories mid-set
Dumbbell	Reverse Lunge	Say opposites (hot/cold)	Decision making	Add direction change
Kettlebell	Deadlift	Count by 2s or 5s	Rhythm + sequencing	Change counting pattern
Kettlebell	Swing	Word association (category)	Processing speed	Increase tempo
Kettlebell	Carry	Answer questions	Dual-tasking + awareness	Add direction cues
Resistance Band	Band Row	Name categories	Memory + focus	Add speed or tempo
Resistance Band	Squat	Count backwards	Cognitive load	Add pause hold
Resistance Band	Lateral Walk	Recall list	Memory + coordination	Add direction change

BUILD YOUR OWN BRAIN-BASED STRENGTH WORKOUT

Create a strength exercise that trains the body AND the brain

Exercise + Brain + Focus + Progression

Build It

1. Exercise + Equipment

Dumbbell • Kettlebell • Band

Squat • Press • Row • Lunge • Carry

2. Cognitive Add-On

Count • Name • Recall • Opposites • Questions

3. Brain Focus

Memory • Attention • Reaction • Coordination

4. Progression

Add speed • Add complexity • Add reaction • Change pattern

Example

Goblet Squat + Count backwards

Focus: Memory + attention

Progression: Add pause + react to cue

RHYTHMIC FUNCTIONAL MOVEMENT

- Functional movement becomes more powerful when we add rhythm.
- Rhythm organizes how the body and brain work together.

Key Points

- Functional patterns train real life
- Rhythm improves timing and coordination
- Together = smarter movement

Rhythm turns movement into a system the brain understands.

FUNCTIONAL PATTERNS + RHYTHM

Let’s take movements your clients already do…”

And bring them to life with rhythm.

Examples

- Squat → down for 2, up for 2
- Forward Lunge → step, lower, return
- Side Push (lateral step) → push side to side
- V-Step → forward wide, back together

These are real-life movements:

Sit, step, reach, change direction

HOW RHYTHM IMPROVES THESE PATTERN

- When you add rhythm, Movement becomes smoother and more controlled

What Happens
• Better coordination
• Consistent timing
• Reduced hesitation
• Improved balance

Example

Without rhythm:
Lunge feels unstable

With rhythm:
Lunge becomes controlled and predictable

RHYTHMIC FUNCTIONAL MOVEMENT PATTERNS

FUNCTIONAL MOVEMENT TYPES

- Squat
- Hinge
- Lunge
- Push
- Pull
- Rotation
- Cross-Body

FUNCTIONAL MOVEMENT TYPES

These are the patterns we use every day:

- **Squat → Sit / stand**
- **Lunge → Walk / climb stairs**
- **Lateral (Side Step) → Change direction / avoid obstacles**
- **Cross-Body (Rotation/Coordination) → Walking, reaching, balance**

CREATE YOUR OWN MOVEMENT PATTERN

Build a rhythmic movement pattern using 4 functional movements

Rules

- **Choose 4 functional movements**

Squat • Hinge • Lunge • Push • Pull • Rotation • Cross-Body

- Perform each movement for a count of 4
- Keep it continuous and rhythmic

Example Pattern

- 4 Lunges (R + L = 1 rep)
- 4 Squats
- 4 Lateral Steps (R+L= 1 rep)
- 4 Cross-Body (R+ L = 1 rep)

Sample Mind, Motion & Strength Class

Warm-Up

Functional movement with simple brain-based activities

Cardio

Level 1–2 dual tasking

Strength

Level 1–3 dual tasking

Movement Pattern 1

Out-Out-In-In • Grapevine • Scoop • Side Push

Repeat, then return to strength work

Balance

Level 1–3 dual tasking

Movement Pattern 2

V-Step • Back Push • Opposite Arm + Leg • Cha-Cha

Then transition into balance with dual tasking

Stretch / Cool Down

Recovery, mobility, and reset

Today, you didn’t just learn new exercises:

- **You learned how to train the brain through movement.**
- **You now understand how to take functional fitness and turn it into cognitive fitness.**
- **Most importantly, have the tools to help your clients move better, think faster, and live more confidently.**

THANK YOU

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