LES MILLS CORE INSTRUCTOR HANDBOOK



WELCOME TO LES MILLS

Welcome to Les Mills and your new journey in becoming a fully certified LES MILLS CORE Instructor. This is where your journey begins, changing your life and those around you.

At Les Mills, we are passionately devoted to creating a fitter planet. Our ambition is to reach 100 million people every week. We want to help transform the global health system by preventing major health issues caused by inactivity and obesity.

Every day, we inspire a life-long love of exercise, joy of movement and leading active lives. A constant voice that compels people to move. People get stronger, leaner, fitter, faster because of us. We know Group Fitness works. This is the business of motivation.

It starts with YOU. Believe it can be done. Trust that it's possible. We change the world one person, one couple, one family, one company, one city, one country, one continent at a time.

Thank you for joining the movement.

Phillip & Dr. Jackie Mills

PASSIONATELY DEVOTED TO CREATING A FITTER PLANET

FITNESS IS OUR LIFE FORCE

From an early age our founder Phillip Mills, was immersed in an active lifestyle. His father, former New Zealand National Track and Field Coach, Les Mills Snr is a gold medal winning athlete who with his wife Colleen raised his kids to love exercise. A four time Olympian, Les encouraged his family to pursue sporting excellence and together they all represented New Zealand in track and field. The desire to move, to be fit and share that with others led the Mills family to open their first health and fitness club in 1968.

After attending UCLA on an athletic scholarship, Phillip joined the business full time in 1980 and immediately began to innovate. Combining his passion for music with a love of athletic movement he created group fitness programs that literally had members queuing out into the streets to get a place in class. The excitement was real, the results were amazing. People were falling in love with fitness.

In 1990 the game changed. Phillip pioneered the world's first barbell class, PUMP. It was massively popular in Australia and New Zealand and in 1997, renamed BODYPUMP we took it to the world.

Les Mills became Les Mills International.

Joined from the beginning by Dr Jackie Mills, M.D, a former national gymnastics representative and passionate advocate of nutritional medicine and holistic health, Phillip continued to oversee the rapid expansion of the company. Together they co-authored Fighting Globesity, a manifesto and call to action encouraging individuals, companies and governments to do more to get active. Joining them in the business now are their daughter Diana, and son Les Jnr., Creative Directors for a number of the programs.

Today in more than 100 countries, over 120,000+ instructors teach 18 programs to millions of people every week. And in truth, we're just getting started.

We are on a mission to create a fitter planet. A global team of instructors inspiring others to move, helping those around them to fall in love with fitness. To take better care of themselves, and better care of our planet.

We want you to join us on a journey to mastery. Our training programs and ongoing education are all designed to help you develop, to grow and to shine. You'll explore what it means to be a leader against sedentary lifestyles. You'll discover how to overcome your personal limitations and step up to be a leader. Someone who inspires others to overcome.

FITNESS IS OUR LIFE FORCE. WELCOME. KIA ORA. AROHA. WE ARE ONE TEAM. CHANGING THE WORLD.

THE JOURNEY AHEAD

BECOMING A LES MILLS CORE INSTRUCTOR

WE ARE ASKING A LOT OF YOU!

We ask that you care — about everyone, whoever they are: the fans, the frowners, the faithful, the fanatical, professional athletes, same arm same leggers, beginners and life-long members.

We ask that you put every single one of their workouts before your own. That you arrive early, leave late. That you let the music drive you, that you believe in the power of movement, the power of your body as a tool for inspiration and as a work of art.

And, hardest of all, we ask that you inspire, motivate and improve the lives of others.

THIS INSTRUCTOR HANDBOOK

Over the next two days, there will be non-stop learning about how to become the best LES MILLS CORE Instructor you can be. Use this handbook to take notes, capture your reflective thoughts, and help you to prepare for your assessments.

We have included a lot of the information that you will learn about, but there is also space for you to take notes. So go ahead and make this handbook your own — capturing the amazing journey you are about to begin!

WE KNOW YOU'RE UP FOR IT SO THANK YOU FOR HELPING US CHANGE THE WORLD!

TRAINING OBJECTIVES

We are keeping it simple – aiming to achieve four key objectives by the end of Day Two:

- You'll learn and be able to demonstrate each of the 5 Key Elements of LES MILLS CORE
- You'll learn how to script and prepare for your presentation track assessment
- You'll practice presenting your track and receive feedback
- And of course you will feel confident when you present/film your full track for your training outcome

5 KEY ELEMENTS

To become a LES MILLS CORE Instructor you need just 5 simple points – the 5 Key Elements.

We're going to go through them one by one, explain what they are, why you need them and how to use them. Just remember, we've based our business off these 5 Key Elements for a reason — they work. So learn them and you'll succeed. Simple as that. Let's get into it.

WORKOUT SKILLS

BE AUTHENTIC
BE YOURSELF
BRING IT TO LIFE



CHOREOGRAPHY

KNOW YOUR MATERIAL

Choreography is at the core of every LES MILLS CORE workout. You need to know your Choreography 100%. Why? Once you have perfected this, you can focus on connecting with your class and bringing the experience to life.

WHAT IS CHOREOGRAPHY?

Classes are structured with exercises and sequences that maximize the effect of the workout, using safe and effective ranges of movement. From there the music drives the tempo, which creates different training effects. Some muscle fibers work better with slow tempos and others work better with faster tempos.

By changing the tempo, it means all fiber types are activated. Getting the tempo right means your class will get the results they came for. That's why you need to have your **Choreography 100% perfect.**

WHAT'S COMPULSORY?

- You must adhere to the Choreography and all the safety features. They form the basis of assessment in the Key Element Choreography.
- You must follow the compulsory 30 or 45 minute class format.

TRACK OBJECTIVES

	TRACK NAME	TRAINING OBJECTIVES AND UNIQUENESS
1		
2		
3		
4		
5		
6		
7		
8		
9		

READING YOUR CHOREOGRAPHY NOTES

Every quarter, you will receive your Choreography Notes — this is everything you need to know to prepare successfully for your class. The first thing you do is look at the Track Breakdown for your Choreography.

Read everything in your Choreography Notes. You've got:

- Technique cues
- Coaching cues
- Compulsory cues
- Track Focus
- Key Coaching focus
- The WHY behind the track exercises
- The Key to reading the choreography

HOW DO YOU READ CHOREOGRAPHY?

First, follow the music. Second, read the exercise it matches. Every beat of the song is accounted for — so you should know exactly where in the track you are as you listen to the song. The song run time is down the first column so you know where you are while learning Choreography.

You will see a mixture of the abbreviations in the front of the Choreography Notes — make sure you know what they mean and how to use them.

MEMORIZING YOUR CHOREOGRAPHY NOTES

Each one of us learns in a different way. Check out these tips on how you can remember your Choreography a lot easier.

IF YOU KNOW YOUR CHOREOGRAPHY, YOU ARE FREE TO TEACH

LINK TWO PROCESSES TOGETHER

The key to learning and remembering Choreography is to link two processes together. Try one of the following to help you memorize what you need to know:

- Watch the Release video AND follow the Choreography Notes at the same time
- Listen to the music AND speak out loud the name of the exercise and the tempo when it changes
- Watch the Release video AND exercise with it
- Listen to the music AND exercise with the Choreography
- Identify the pattern of the Choreography as you listen to and read the pattern of the music

Other great ideas are:

- Attend as many Quarterlies as you can to experience great role models and the classes LIVE
- Watch, listen to and do your new release video several times
- Look for patterns in the Choreography Notes and visualize them
- Take notes use a highlighter, make them your own
- Listen to your music everywhere you can in the car, in the shower!
- Prepare before every class
- Get involved in Club Launches

CHOREOGRAPHY PRACTICE

Time to prepare the Choreography for your presentation practice. Take notes below as you work with your Choreography Notes.

SCIENCE OF LES MILLS CORE

KNOWLEDGE IS POWER

How can we claim that LES MILLS CORE is revolutionary core training? What is the science behind achieving results in LES MILLS CORE?

Everything you need to know about 'how and why' the program works is here in these pages. So take it upon yourself to understand more about the physiology, physical changes and benefits of LES MILLS CORE.

You will be a master Instructor when you draw on your scientific knowledge of the program and use it to better educate and individually motivate the people in your class. To help you we have given you knowledge and some ideas on what you should say in class.

THE RESEARCH BEHIND LES MILLS CORE

LES MILLS CORE is a science based programme. When we developed this programme, we researched the best way to train our core.

Dr Jinger Gottschall of The Pennsylvania State University (USA) conducted a study into how core muscles react to a range of different exercises using a process called Electromyography (EMG). She attached electrodes to the muscles and measured activity between electrodes during the exercises.

The muscles included rectus abdominus, external and internal oblique, thoracic and lumbar extensors of the back, deltoid in the shoulder and gluteal muscles of the hip.

10 men and 10 women were tested through 17 exercises, comparing the effects of isolated exercises such as crunches with integrated exercises such as hovers and planks. Dr Gottschall expected to see activity across all muscles in the integrated exercises, but was surprised to find these movements caused just as much, or more, activity in those muscles as isolation exercises that targeted

Integrated exercises such as Hovers require more muscle activation than isolated exercises and reflect the type of contraction we see in functional activities like walking.

them individually. The integrated exercises also went closer to replicating the muscle activity we see during functional activities such as walking.

These findings helped us identify the most efficient and effective exercises to give the core a great workout in just 30 minutes.

For more details on this study, refer to Appendix 6.

WHY SHOULD WE TRAIN?

Why is the core such a common training focus?

Cosmetic Benefits

The reason most people are attracted to building strength in this area is aesthetic gain. People really want the Cosmetic Benefits of having a strong mid-section. Many of us are after that six-pack look. So, regardless of how people are training, they will often do some core exercises at the end of their workout.

But in terms of sports science, we recognize

Functional Strength

something else that emphasizes the importance of core training and this is known as Functional Strength. With any sporting situation, or many situations in everyday life, we are transmitting load through our lower limbs to our upper limbs. Just think about pushing on something that is reasonably heavy: we are driving out of our legs and transmitting that force up to our arms. The ability to do that is determined by how you can stabilise

SCIENCE OF LES MILLS CORE

your core against that load. It doesn't matter how much strength you have in your legs, if you buckle in the middle when you transmit that strength to your arms, you dissipate that force. As a result we lose efficiency and strength. So having strength in this area is paramount to having good Functional Strength.

The last area that has really become a major

Lower Back Pain

focus of training in this area is lower back pain.

Lower back pain is said to affect 8 in 10 people at some point in their lives, which will prompt them to see a medical practitioner. It is estimated that 12% of adults in the USA in 2007 were suffering from lower back pain, and they spent about US\$30 billion on treatment.

A lot of research has gone into how we can prevent lower back pain and what we can do to manage the pain once it has started. Some of that research has really pinpointed muscle control in this area as being vital for keeping our spines healthy and supported.

SO WHAT IS THE CORE?

Before we get on to discussing the muscles, we need to think about the spine. Obviously the spine is our foundation; it provides axial support for all our movements.

When training the spine, we need to be aware of the concept of spinal neutral. Spinal Neutral is

In Spinal Neutral, the vertebrae are aligned to receive load.

the position where the spine has a slight inward curve in the lower back, a slight outward curve in the thoracic region and again a slight inward curve in the neck. In this position the vertebrae are aligned to receive load. If we move out of this position, we

start to change joint loading and the spine is more at risk of injury. If we strip all the muscles away from the spine, and stand the spine on a platform with just the ligaments and discs, it will buckle with just 4.5 pounds (2 kg) of pressure. So it is really up to the muscles to provide the support for the spine and therefore keep it in spinal neutral under load. This support is required when walking, lifting and virtually any functional movement pattern.

When we refer to the muscles, we can categorize them into units.

MUSCLE UNITS

The first group we refer to as the Inner Unit. These are the deepest muscles in the abdomen and lower back that form a wrap around the spine. Then if we go out a layer, we have the Outer Unit. These are the next layer out and are more superficial. And then lastly we have Muscular Slings. Slings are made up of a series of muscles and connective tissues that connect the upper and lower limbs through the Outer Unit in the mid-section.

THE INNER UNIT

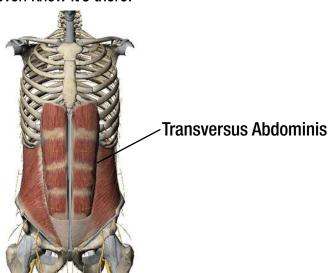
The Inner Unit is a very deep sleeve of muscles that hug and wrap around the spine. Because these muscles are so deep and

The Inner Unit is a deep sleeve of muscles that supports the spine at low loads

so close to the spine, they cannot really move the spine. Instead, these muscles control the position of the spine at low loads.

What do we mean by low loads? Low loads include activities like standing still. In these situations we don't want to be firing our big muscles in an attempt to try and hold our spine in position. We need to be able to breathe and not over-exert. We use a low-load activation to control the position of our spine using the Inner Unit.

So these Inner Unit muscles work aerobically, they work for long periods of time and they work at low intensities. They function at around 30% of their maximum capacity. That's nothing — it is just a light contraction that occurs in the background; we don't even know it's there.



In the abdominal group the deepest abdominal muscle we have is **transversus abdominis**. Transversus abdominis attaches to connective tissue around the back. Its fibers, as the name suggests, are directed sideways around the waist and insert into fascia or connective tissue down the front of the abdomen. When transversus abdominis contracts, it narrows the waist, much like tightening up a little corset around your mid-section. This creates a light bracing action around the spine. Research in 1997² discovered that people with lower back pain had a dysfunction of their transversus abdominis. If you take a group of people without

THE INDIVIDUAL MUSCLES OF THE INNER UNIT

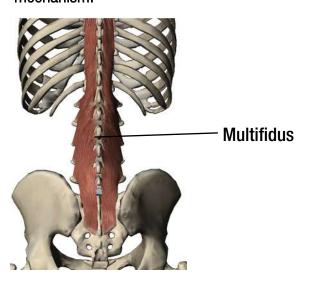
Why does it need to do that? Because when your arm moves forwards you are going to potentially buckle your spine, so your brain recognizes this and supports the spine before you move your arm.

lower back pain and get them to lift their arm you

will find that transversus abdominis engages to

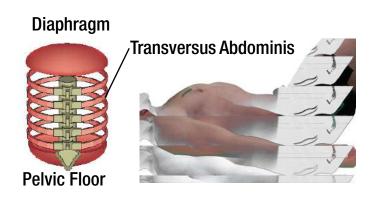
support the spine before they move their arm.

People with lower back pain, however, have an altered function of this muscle, the muscle switches on later, after the arm has lifted, which is too late to support the spine. So they lift their arm, and then the muscle comes on as an afterthought. This is potentially why some people have ongoing lower back pain. Once this change of muscle function was discovered there was a huge focus on retraining this mechanism.



Another key muscle in the Inner Unit is **multifidus**. Just like transversus abdominis, this muscle is in the very deepest layer of muscle — this time in the back extensor group, in the back of the spine.

Again, multifidus is not in a position where it can really change the position of the spine; it is a low-load muscle that really just gently holds on to the joint position and is therefore not a big mover of the spine.



SCIENCE OF LES MILLS CORE

When we combine multifidus with transversus abdominis, we have a wrap around the spine that supports the spinal column. It is thought that if we combine their action with the muscles of the pelvic floor and the muscles of the diaphragm, we have a cylinder effect that seals off the mid-section and creates gentle pressure around the spine. It is the combined effect of these muscles that we regard as the Inner Unit.

THE INNER UNIT IN ACTION

Try this drill to feel this mechanism in action. We are going to contract the inner unit. The first thing you need to do is find transversus abdominis. Put your fingers on the crests of bone just on the sides of your pelvis. Then slide your fingers just slightly inward until you find some muscle.

To test whether you are on muscle, have a little cough. You should have felt a lift under your fingers; that's a muscle contraction. Now we are going to contract transversus abdominis. Remember, this works under low load so don't try too hard. Take a deep breath in then breathe out. Then stop breathing for a second and draw your lower abdomen in, focusing on the area just below the belly button. As you gently draw that area in, you will feel light tension underneath your fingers. It should be just a light firming under the fingers, not a big bulge or a lift. Hold that contraction and resume breathing again.

You should be able to hold that light tension consistently for about 10 seconds during normal breathing. That is a transversus abdominis contraction. So, again, it is just a gentle drawing in of the abdomen that narrows the waist. It is that light tension that supports the pelvis and lower back, under light loads.

We don't focus on the Inner Unit in LES MILLS CORE. No one wants to turn up to a class for 30

INNER LINIT NOTES:

The Inner Unit is not a key focus in LES MILLS CORE.

minutes and lie on their back and perform this very gentle contraction. These exercises are best suited for rehabilitation settings, working with specialists to regain control of this muscle. There are other muscles that are more superficial and have an equally important role in stabilizing the spine under higher loads.

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THE OUTER UNIT

The Outer Unit muscles run from the ribs down to the pelvis. In the front they are located in the abdominal wall and in the back in our back extensors. These muscles are perfectly situated to bend and move the spine. In the abdominal group we have external oblique, internal oblique and rectus abdominis. These muscles are more superficial than transversus abdominis, which is why we refer to these as the Outer Unit muscles.

In the back we have the long strap muscles that run either side of the spine, which are collectively known as back extensors. These muscles are superficial to multifidus.



Superficial Erector Spinae



Rectus Abdominis

The abdominal wall muscles can be split into two groups. We have upper abdominals and lower abdominals. We are still talking about the same muscles, ie rectus abdominis, external and internal obliques, but some parts of these muscles are better at pulling at the pelvis, while other parts are better at pulling on the ribs.



Internal & External Oblique



Let's focus on lower abdominal function first this is the ability of these muscles to control the

The lower abdominals control the position of the pelvis.

position of our pelvis. So whenever we are walking or performing any lower-limb activities we need to be able to stabilize our pelvic position so that we can use our leg muscles effectively. If the pelvis starts to move around excessively while we are performing these types of activities, this can lead to injury and reduce power output.

We have exercises and movements that focus on lower abdominal activation. This is where we concentrate on anchoring the pelvis, stabilizing its position and then using the legs for resistance.

THE OUTER UNIT IN ACTION THE LOWER ABDOMINALS

Let's use a drill that tests these muscles so that you can feel their action and feel what it takes to support the position of the pelvis.

Lie down on your back with your knees bent. Slide your right hand underneath the small of your back. This hand is going to monitor the pressure of these muscles as they exert downward pressure to keep the spine down towards the floor. To activate these muscles, draw your abdomen in slightly and pull up on the front of the pelvis with these muscles to flatten your lower back down into your hand. You now have downward pressure on your spine, pushing down on your right hand.

Let's provide a little test for them — what happens when you take the legs off the floor?
As soon as your legs come off the floor your hip flexors engage and your hip flexors try and lift the spine upwards. Your lower abdominals need to stabilize against the upward pull of your hip flexors.

SCIENCE OF LES MILLS CORE

We are therefore testing their ability to stabilize the spine down into your hand against the pull of your hip muscles.

To increase the challenge we can then extend one leg out. As the leg goes out further, the hip muscles work harder. As they work harder they are trying to pull the back off the floor even more. To increase the challenge further, extend both legs out, but really fight to maintain that back position down to the floor.

We use exercises that stress this mechanism in class. The extent to which we move the legs is determined by the ability of the abdominals to hold the back down towards the floor. If we extend the legs too far, we feel the back lift away from the floor and that is not achieving control.

Remember the lower abdominals hold the pelvis so that we can use the leg muscles without distorting the position of our spine. And that is a very, very important postural and functional role.

THE UPPER ABDOMINALS

Let's move our focus to the upper abdominals. Remember, we are talking

The upper abdominals pull down on the ribs.

about the same muscles of the anterior abdominal wall but this time we are referring to their ability to pull down on the ribs. We see these muscles in action during exercises like Crunches or when the ribs are moving down towards the pelvis. Let's test these muscles.

Lie down flat on your back with both legs out straight, arms crossed over your chest. From this position we contract the upper abdominals to slide the ribs down towards the pelvis. Then we maintain this position as we sit all the way up.

There are two phases to the test — there is the Trunk Curl phase and then the Sitting Up phase. If you can sit up all the way whilst maintaining that Truck Curl, then you have normal or very good upper abdominal strength.

You will notice with some people that they lift their feet a little during this test. That is actually considered normal. It really just depends on your body proportion. If you have a lot more weight in your upper body than you have in your legs, as you start to come up in this test, your feet will lift a little. At this point it is actually OK if someone just creates a little bit of downward pressure on your feet.

In LES MILLS CORE you will see exercises that challenge both the upper and lower abdominals. With lower abdominal

In LES MILLS CORE we have exercises that focus on the upper and lower abdominals.

exercises we focus on the position of the pelvis, keeping the back down toward the floor using the legs for resistance. Upper abdominal exercises pull the ribs towards the pelvis, like Crunches and more conventional Situps.

Obviously the abdominal wall also works with twisting actions. The obliques lift the ribs up and across towards one side. The obliques are the rotators of the trunk and are involved in all rotational exercises.

THE BACK EXTENSORS

To complete the Outer Unit we have muscles around the back. Just as we saw with the abdominal muscles and their ability to curl the trunk, we have strong muscles attaching from the pelvis up to the ribs in the extensor group that pull our spine into extension.

These muscles hold our spine upright against loads that are trying to bend us forward. They work hard in exercises such as Squats, or Deadlifts or any activities involving bending

Our outer unit back muscles hold our spine upright and prevent it from buckling forward during exercises like Squats.

and lifting something up off the floor. We focus on these muscles extensively in our LES MILLS CORE program.

Let's see how we test the back extensors.

Lie on your stomach, forehead resting on the back of your hands, and contract your back extensors to get a sense of what they do and how they feel. To do this we tension the glutes and hold that contraction as we lift the chest up away from the floor, bringing the hands up with you. Then we hold that position. Now you will see and feel that there is a big contraction of these strap muscles up either side of the spine. There is not a lot of movement here, but you will get that sense of a really strong contraction within the muscles of your back.

So these muscles also form a very important part of the Outer Unit. They give us power and strength and hold our back in that extended position when external forces are trying to bend us forward. It is these muscles that lift our chest during Squats and Deadlifts and are clearly very important in maintaining posture.

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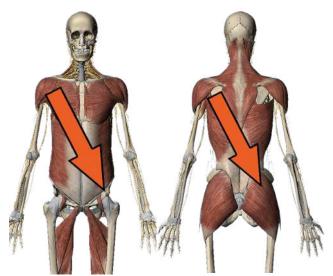
THE SLING MUSCLES

CLITER LIMIT NOTES:

Our sling mechanisms are an amazing network of muscles. They run from the lower limb, connecting through the Outer Unit in Sling mechanisms are a series of muscle connections that provide functional strength.

the mid-section and intermesh with the muscles of the upper limbs. It is these mechanisms that deliver our power. For those muscles to do their job we need to be able to brace our mid-section. As we have said earlier, if you are going to transmit load from the legs up into the arms, you need to be able to brace your mid-section. For example, if you are trying to push on something, your legs are driving forward, pushing that force into the arms. If you buckle in the middle all of that force is lost. So the strength of the muscles in your upper and lower limbs is only as good as your ability to brace and support your midsection.

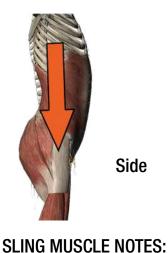
SCIENCE OF LES MILLS CORE



Anterior Posterior
Anatomically there are a number of these slings.
The Posterior Sling connects latissimus dorsi
through the connective tissue of the lower back and
then across into gluteus maximus on the opposite
side. This mechanism is active when we are
walking. To use this we move the opposite arm and
opposite leg forward to allow the Posterior Sling to
propel you forward.

The Anterior Sling is a connection between our upper limb muscles, through the fascia of our abdomen and then intermingling with the muscles at the front of our hips. The muscles are anterior deltoid and pectoralis major, intermingling with serratus anterior which then connects its way into external oblique, which winds its way down to connect into our hip flexors and adductors. This is another powerful sling mechanism. Imagine these muscles all interconnecting to produce collective strength. They are only going to work if we can stabilize our mid-section.

Side slings are lateral muscles that pull us to the side. And we have front slings that just go straight down, and back slings that just go straight down the back. All of these slings produce functional strength and power.



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THE HOVER

Let's use a Hover to demonstrate sling activation. With a Hover we load the upper body and the legs, brace through the mid-section and establish this connection between the upper and lower body to give us that sense of power and strength. Ensure you connect these muscles with a good firm bracing mechanism though your core. As you lift your knees you intensify that contraction. This is how we train a firm foundation for a lot of functional activities.

Many exercises in the LES MILLS CORE program use positions such as these to load the upper and lower limbs and create a bracing effect in between. Exercises such as Hovers

Exercises such as
Hovers load the upper
and lower limbs and
require a braced
mid-section. This is
sling training.

create a three-dimensional activation, ie muscles at the front, back and side contract simultaneously to stabilize the trunk — whereas when we perform exercises such as Crunches, we see an isolated effect focusing on the anterior abdominal wall. Studies have shown that activities like walking use a similar three-dimensional muscle activation pattern. Therefore, exercises that target this integrated action have a much stronger carry-over to day-to-day function.

We can test this mechanism with a walking drill. If we march on the spot with a strong arm action, we feel the assistance coming from the arm swing. But if we take one of the slings out of action by wrapping our arms around our back, holding our forearms together, we notice that it now requires a lot more effort to be able to lift the legs. The force that is required to lift the legs goes up as a result of not using our arms. This is the slings in action.

But we must reiterate that our slings are only as good as the interconnecting stability in our core. There is no point being able to drive a lot of force out of your legs if you buckle in the middle when you are trying to transmit it to your arms, and vice versa. So your sling mechanisms depend on good strength, good stability and the ability to hold the mid-section of your body rigid while you are activating these muscles.

ISOLATION AND INTEGRATION

The LES MILLS CORE program uses a combination of isolated and integrated exercises. Isolated exercises focus on one group of muscles. Crunches, for example, focus on the ability of the upper abdominals to pull the ribs toward the pelvis. Whereas a Woodchop uses integrated contractions from the hips, core muscles and upper body.

Focusing on isolated movements provide the ability to achieve a burst of intensity within the target muscle group. This is how we create the sense of a muscle burn in core training and contributes to the feeling of intensity within the program.

Integrated exercises use a much larger series of muscles. These provide functional strength effects as we use similar combinations of muscles in activities of daily life and sporting situations. These exercises will also produce an increase in heart rate as there is more demand to deliver blood supply to a much larger group of working muscles. LES MILLS CORE uses a combination of these two training methods to deliver a total conditioning package.

 $^{^{\}rm 1}$ US Department of Health and Human Services, Back Problems: Use and Expenditures for the U.S. Adult Population, 2007

² Richardson C, Jull G, Hodges P. Therapeutic Exercises for Spinal Segmental Stabilisation in Low Back Pain. Philadelphia: Churchill Livingstone.

SCIENCE OF LES MILLS CORE

WHAT DOES LES MILLS CORE DO FOR YOU?

The LES MILLS CORE workout uses two main training tools. Strength endurance and intensity. The sustained focus on the core musculature improves the ability of these muscles to provide spinal support for prolonged periods of time. This is the type of contraction these muscles use on a regular basis posturally and during other functional activities. There also are spikes of intensity focusing on a specific element of the core. These periods

of focused effort create an overload effect, which generates muscular change.

LES MILLS CORE trains strength endurance with short bursts of intensity

LES MILLS CORE PROVIDES POSTURAL BENEFITS

By improving strength and the control of the muscles that control the position of the pelvis and spine. Participants will be able to hold better posture. We consider this type of training as prehabilitation. This is the type of training that will help prevent the onset of spinal dysfunction or back pain.

LES MILLS CORE INCREASES MUSCLE STRENGTH

Strength gains occur in the first few weeks of LES MILLS CORE training due to the improved efficiency of the neuromuscular pathways. Initial strength gains can therefore occur quickly.

Further gains can be experienced at around six weeks as the body develops extra muscle fibers to cope with the demands of the class. The amount of new muscle generation will depend on the fitness level and strength of the new participant.

LES MILLS CORE IS A SELF-REGULATED CORE WORKOUT

The ability to regulate individual intensity is a key benefit of LES MILLS CORE training. Participants can regulate intensity by choosing appropriate resistance and body positions, reducing their ranges of movement and choosing the less intense options to suit their fitness level.

Participants can progressively increase tube resistance, range and intensity of movement to achieve results on a continuing basis.

HOW DOES IT FIT INTO MY TRAINING PLAN?

We recommend you do LES MILLS CORE two to three times a week for the best results. A rest day in between or doing some aerobic exercise or other strength training classes such as BODYPUMP™ will provide you with a balanced fitness training regime. Rest days will allow your muscles to recover.

IS IT FOR EVERYONE?

Core stability training has become an important component of all fitness programs, whether your goals are weight loss, muscle toning, injury prevention or sports conditioning. LES MILLS CORE provides a solution improving daily activities for active adults. Check out the following list of precautions for more details on who shouldnt do LES MILLS CORE.

CONTRAINDICATIONS: WHO SHOULDN'T DO LES MILLS CORE?

PREGNANCY

You shouldn't do this program if you are in your last trimester of your pregnancy, which is the last three months. A lot of the positions that we use and the exercise intensity in this program will be too demanding for an expectant mother in this phase of her pregnancy. Also you will need to get clearance once you have had your baby to resume this type of training. This advice should be sought from your healthcare provider.

BACK PAIN

This is not a program for those who experience acute onsets of lower back pain. These injuries are best managed in clinical settings. Most back pain sufferers need a very specific exercise regime for the type of back pain from which they are suffering. Exercise prescription, in these cases, need to be based on a thorough clinical assessment.

The strength endurance gained from LES MILLS CORE will help prevent the onset of lower back pain in a healthy population and may help reduce the rate of recurrence with previous spinal problems, once the sufferer has been given the all clear to resume this type of training.

OSTEOPOROSIS

Osteoporosis is another condition we need to consider with LES MILLS CORE. Elderly people who have clinical signs of bone softening, particularly through the spine, are unable to perform some Back Extensions and Hovers as these exercises generate compressive loads on the spine.

PAIN WARNING

Exercises in LES MILLS CORE should generate feelings of muscle tension, not joint pain. For example, if you are holding a Hover and you are getting shoulder joint pain, that may be an indication that there is excessive stress on the shoulder rather than the core. Participants need to be educated to make the right choices with their training. They should be feeling muscle tension and fatigue, not pain or joint stress.

TRAINING CONTRAINDICATIONS

Once you have fatigued your core you shouldn't do any heavy resistance training directly afterwards. The muscles of the core are important stabilizers and are recruited forcefully during resistance training. Participants shouldn't train with high loads once they are fatigued. This will increase the risk of spinal injury.

MIXING WITH OTHER CLASSES

When combining LES MILLS CORE with other group fitness classes it is always best positioned after the other class. Although not as serious as the effect on resistance training — having a fatigued core is likely to lower intensity in cardio workouts and can predispose injury due to stabilizer fatigue.

TECHNIQUE

People come to class to get results. The way you look and move will either put people off or inspire them to work harder. Great Technique forms the foundation of your teaching.

TECHNICAL MASTERY

GET FIT

No excuses – you need to be fit, strong and in shape. This will allow you to execute every repetition of every exercise with precision for the duration of the entire class.

BE A PERFECTIONIST

Be harsh on yourself. Eliminate habits that keep you from perfect execution. Practice in the mirror and video your class on a regular basis. Demand peer review. Become an active member of your Club Launch team and take the opportunity to tidy up Technique every three months.

PRACTICE

You're an athlete now. Train every day. Work towards your goal and remember why you need perfect Technique.

YOU KNOW YOU'RE THERE WHEN...

- Your participants start to move with great Technique
- Your participants tell you they're inspired by the way you move
- A peer, trainer or manager tells you that your Technique is perfect

YOU ARE A POWERFUL ROLE MODEL

There are two components of great Technique in LES MILLS CORE: Position and Execution Setup

POSITION SETUP

Set your class up safely and effectively. Kick start by telling people what **Equipment** is needed and how they are about to use it. Always cover **Alignment**, stating the placement of the outer limbs and resistance before initiating an exercise. Add cues on **Muscle Activation**, including how to stabilize the muscles that will help keep us there.

EXECUTION SETUP

Once set up, state cues that help people to execute the move. Cover the **Body Part and Direction** saying where the body should move. Tell the **Target Zones** and **Stabilization Cues** to improve the execution.

YOUR JOB IS TO BE AN EXAMPLE

OF PERFECT TECHNIQUE

TECHNIQUE WORKSHEET

ALLOCATED TRACK MOVES	TECHNIQUE CUES
	Position Setup:
	Execution Setup:
	Position Setup:
	Execution Setup:
	Position Setup:
	Execution Setup:
	Position Setup:
	Execution Setup:
	Position Setup:
	Evacution Cature
	Execution Setup:
	Position Setup:
	Evacution Cature
	Execution Setup:

TECHNIQUE WORKSHEET

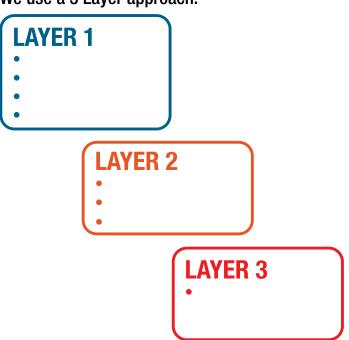
ALLOCATED TRACK MOVES	TECHNIQUE CUES
	Position Setup:
	Execution Setup:
	Position Setup:
	Execution Setup:
	Position Setup:
	Execution Setup:
	Position Setup:
	Execution Setup:
	Position Setup:
	Execution Setup:
	Position Setup:
	Execution Setup:

COACHING

Les Mills consumer research tells us that people in LES MILLS CORE classes want to know:

- How to execute the exercises correctly
- Why they are doing the exercises
- What physical benefits they're going to get from them

Coaching LES MILLS CORE is simple. We use a 3 Layer approach.



LAYER 1 COACHING

This is the foundation of great Coaching. It's all about the Setup Cues that will prepare people for the exercise, and then tell them how to execute it. Great Layer 1 Coaching is all about establishing four key parts:

1. TRACK INTRODUCTION

Track Introductions tell your class the essential information to help them succeed. Keep this brief, direct, and to the point. You'll only have seconds to deliver some key information. Use the Track Focus to help you decide and say it in one sentence. Keep it simple and engaging. Plus don't forget LES MILLS CORE is often at the end of another class, so you need to reengage everyone that has just joined.

YOUR ROLE AS COACH IS TO DELIVER THE RIGHT INFORMATION AT THE RIGHT TIME

2. POSITION SETUP

Always include information on the **Equipment**, **Alignment** and **Muscle Activation**.

3. EXECUTION SETUP

Add cues that cover **Body Part and Direction**, the **Target Zone** and **Stabilization Cues**.

4. LEVELS

LES MILLS CORE attracts new through to seasoned participants. We can cater to this broad spectrum by regulating the workout through the use of options. We have options to either increase the intensity of an exercise or decrease it.

Remember to keep Layer 1 Coaching simple. Look at the **Key Coaching Focus** in your Choreography Notes to help you prepare what you will say for Layer 1.

PRE-CUEING

Pre-cueing exercises — or preparing participants for the next exercise while they are completing the previous sequence — is a skill that makes a big difference for people to feel successful.

Pre-cues are done on the last 4-8 beats of the musical phrase. People find it frustrating to miss the exercise change because the Instructor does not provide this information.

COACHING – LAYER 1

COACHING LAYER 1 SCRIPT

COMPULSORY CUES	ADDITIONAL CUES
COMPULSORY CUES	ADDITIONAL CUES

COACHING – LAYER 1

COACHING LAYER 1 SCRIPT

TRACK INTRODUCTION		
POSITION SETUP	COMPULSORY CUES	ADDITIONAL CUES
Equipment		
Alignment		
Muscle Activation		
		ADDITIONAL OUTO
EXECUTION SETUP	COMPULSORY CUES	ADDITIONAL CUES
Body Part & Direction	COMPULSORY CUES	ADDITIONAL CUES
	COMPULSORY CUES	ADDITIONAL CUES
Body Part & Direction	COMPULSORY CUES	ADDITIONAL CUES
Body Part & Direction Target Zone	COMPULSORY CUES	ADDITIONAL CUES
Body Part & Direction Target Zone Stabilization Cues	COMPULSORY CUES	ADDITIONAL CUES
Body Part & Direction Target Zone Stabilization Cues	COMPULSORY CUES	ADDITIONAL CUES
Body Part & Direction Target Zone Stabilization Cues	COMPULSORY CUES	ADDITIONAL CUES

COACHING – LAYER 2

Layer 2 Coaching allows you to take your members to the next level of their workout. This is where you will help them to focus on improving their execution and manipulating the intensity of their workout. And for a lot of your members to be able to maximise the move, they need to be educated on the benefits.

Start by looking at your Track Focus. This often guides you to the specific element within each track to focus on in Layer 2. Keep things simple by choosing one objective to coach in each set of Choreography. Remember — less is more!

Once you've looked at the Track Focus, you'll need to add these three parts to your script:

IMPROVE EXECUTION

- Correct Common Faults by Reinforcing Layer 1 Cues
- Cover the Key Coaching Focus and Target
 Zones to help people execute each move better
- Qualify the Levels to help explain why the change in move should happen

MANIPULATE INTENSITY

Internal & External Focus of the Move —
 Internal Focus Cues focus on the body parts and movements, helping people to achieve great technique. External Focus Cues are about the outcome of the movement and where you energy is directed outside of the body. This encourages us to become in sync with our natural movement and pushes us further than we think is possible.

EDUCATE

 Provide the **Benefits** that will inspire the different kinds of people in your group, such as explaining either the postural benefits or functional benefits of a move.

TAKE YOUR MEMBERS TO THE NEXT LEVEL OF THEIR WORKOUT

COACHING — LAYER 2

COACHING LAYER 2 TABLE

EXERCISE	IMPROVE EXECUTION	MANIPULATE INTENSITY	EDUCATE
Single Leg Lift			
Hover			
Parallel Woodchop			

THE ART OF SCRIPTING

A great Instructor inspires with their technique, maintains the energy of the class, gives clear instructions and ensures that the class is 'getting' it. Teach your class how to perform the exercises correctly. Be organized with your Coaching.

LES MILLS CORE tracks often have a number of different exercises in them and each separate exercise has a Layer 1 Setup, a Layer 2 Intensity and a Layer 3 Motivate; repeat each layer for each exercise. This is in the Choreography Notes. Each set of work has a clear focus about what we want people to achieve and cues to give you scripting ideas.

SCRIPTING

Scripting is ultimate class preparation.

It ensures we say what needs to be said. When you script, write down all the cues to effectively coach the exercises in the track. Then choose the most efficient cues. This helps sequence your cues in a logical way. It builds your confidence as you learn to teach and builds a library of cues. For each exercise, plan where you will deliver each Coaching layer and in which block of work.

USE THIS SCRIPTING DIAGRAM TO ORGANIZE YOUR CUES:

SET 1 SET 2 SET 3 KEY: LAYER 1 LAYER 2 LAYER 3

SCRIPTING SHEETS

Script Layer One and Two. Complete Layer Three after you have learned about them on Day 2.

EXERCISE	SCRIPT	
	Layer 1	
	Layer 2	
	Layer 3	
EXERCISE	SCRIPT	
	Layer 1	
	Layer 2	
	Layer 3	
EXERCISE	SCRIPT	
	Layer 1	
	Layer 2	
	Layer 3	
EXERCISE	SCRIPT	
	Layer 1	
	Layer 2	
	Layer 3	

SCRIPTING SHEETS

Script Layer One and Two. Complete Layer Three after you have learned about them on Day 2.

EXERCISE	SCRIPT	
	Layer 1	
	Layer 2	
	Layer 3	
	0.0PIP=	
EXERCISE	SCRIPT	
	Layer 1	
	Lover 0	
	Layer 2	
	Layer 3	
EXERCISE	SCRIPT	
	Layer 1	
	Layer 2	
	Layer 3	
EXERCISE	SCRIPT	
	Layer 1	
	Layer 2	
	Lover 2	
	Layer 3	

PRESENTATION PRACTICE

Congratulations on finishing your first day — take time now to reflect upon and write down the feedback you have received. Use this feedback	WHAT DO YOU NEED TO IMPROVE ON BEFORE YOUR TRAINING OUTCOME TRACK PRESENTATION?	
tonight when you review your presentation track and		
plan for Day Two.		
WHAT DID YOU DO WELL?		
WILL.		

DAY ONE REFLECTION

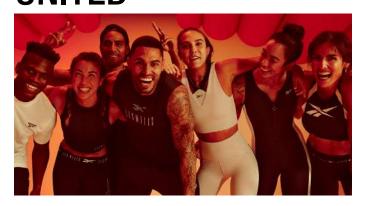
As part of your homework, take time to reflect on what you have learned today. Create a mind map of all the key learning points. And remember — you will be asked about your reflections on Day Two!

WHY ARE WE HERE?

OUR PURPOSE IS SIMPLE:

TO CREATE A FITTER, HEALTHIER PLANET

OUR VALUES: UNITED



We create life-changing fitness experiences, everytime, everywhere. We are one team. Bravely changing the world. We are family. A family company, united in our love of movement, music and the pursuit of healthy living for ourselves and our planet...

BE BRAVE



All the crazy stuff happens at the edge of our limits. We push hard to always do our best work; everyone around here is in the relentless pursuit of improvement. We need genius doers, not bullshit takers. Tall poppies not wallflowers. Risk takers, innovators, rebels — step up.

CHANGE THE WORLD



Changing the world wont be easy. There'll be doubters, haters. Those whole cling tight to yesterday's ideas. But here, in this place, and wherever the team is gathered, we dare to dream. Be audacious. Be willing. Accept difference. Embrace NEW. We love talent, creativity, optimism and fun. Bring yours to work every day. Let's create new and better ways to help people take their first steps on the road to fitness... create life changing fitness experiences everytime.

PRESENTATION PRACTICE

ADD FEEDBACK TO SCRIPTS

Using the feedback you received from your trainer for your first live or videoed track presentation, take some time to start to rescript your presentation for your final assessment.

Make changes to reflect the feedback you received. You should also implement any feedback you were given on your Technique during your Shadow presentation, partner practice and/or technique section.

Rewrite your script for your final presentation.

Use the sheet below to help you plan:

CHOREOGRAPHY
What do you need to add or change to your Choreography?
TECHNIQUE
What do you need to add or change to your Technique?
COACHING
What do you need to add or change to your Coaching?

COACHING - LAYER 3

Inspire your people and help to motivate them to the end. This is where results live. Your class is fatigued, but if they push hard here they will **get fitter today**. Layer 3 Coaching is all about creating the final piece of motivation and driving people to the end of the track!

In LES MILLS CORE, we use a mixture of **intrinsic motivation** (based on feel) "Maintain that strong Hover and you'll feel your core muscles buzzing for the rest of the day" and **extrinsic motivation** that are all about the external recognition of improvements — "Crunch up a little higher to flatten your stomach". Add in **Timing Cues** to create that extra challenge.

When the going gets tough, others will want to hear some **positive motivators** — "You've got this, you can do this, there are only 4 more, you guys are looking great!"

Your members may find they are driven to push harder when someone is tough on them — using **challenging cues** — "I know you've got more!, you can all afford to drop one inch lower... is that the effort you're going to be happy with today?"

There are lots of ways to motivate people — remember to teach to the people in front of you. Use a mixture of intrinsic and extrinsic motivators, positive motivators and occasional challenging cues. Then find out what it would take for you to push through a demanding peak and use these motivators in your classes so that your delivery is authentic to YOU.

REMEMBER TO TEACH TO THE PEOPLE IN FRONT OF YOU

4 KEY WAYS TO MOTIVATE TABLE		
Intrinsic Motivation		
Extrinsic Motivation		
Mouration		
Positive Motivators		
Motivatoro		
Challenging Cues		

CONNECTION

Grow your class numbers by developing powerful relationships with your participants. When you get them into the LES MILLS CORE experience, the moves and you as a Instructor, it creates Connection. Your job is to hook them in. Engage them. Get them to come back.

Be a personal trainer to every person that comes to your class. Take them on a journey. Understand each individual's fitness journey. Connect with that journey. Connect with them. **Create a class that no one wants to miss.**

SO HOW DO YOU DO IT? HOW DO YOU CONNECT AND BECOME EACH PERSON'S PERSONAL TRAINER?

1. RESPECT AND CARE.

Connect with the wide range of personalities and fitness levels. If you have a beginner, show respect for their level and help them to the best they can. If you have an advanced fitness level, provide a challenge. Provide care for the next step that they want.

RESPECT & CARE		



2. LOOK AND TAILOR INTENSITY.

Think like a personal trainer, tailoring the workout every time to the people you have in your class. What do you see in front of you? What do you need to say or do to create a connection that shows you understand their workout?

T00L	NOTES
1.	
2.	
3.	
4.	
5.	
6.	

C.R.C STATEMENTS	CONNECTION TOOLS IN YOUR PRESENTATION Write down two or three cues that you will use during our final presentation to help connect with
	people. Use the tools above to help you.

PERFORMANCE

LES MILLS CORE is a quick and intense workout for the core. Your class needs to feel the intensity, the passion and your enthusiasm for the class in the same way you do. Performance is the answer.



1. THE MUSIC

You will create a Performance when you come back to the music. The music is where LES MILLS CORE starts, the music determines the Choreography, the music tells us how to perform. Every LES MILLS CORE release has tracks with different musical feels. Within every track there are highs and lows to create a huge musical journey. The key to a Performance is to match the musical feel with everything you think, do and say. Always ask yourself — what is the feel of this track?

2. YOUR VOICE

Take the energy of the music and match your Voice. For 60% - 80% of the class, your participants won't see you. Your Voice is your most powerful tool to create a Performance that captures participants.

Match your Voice to the highs and lows of the music. We use the LES MILLS CORE voices and there are 2 main types of voice:

• Conversational Voice — usually used during the verses — just talking to your members.

Motivational Voice — you have two choices:
 Build Voice — usually in the pre chorus the
 music starts to build. Create a voice with more
 pace and urgency, pitch and power.
 Intense Voice — A voice that is BIG and
 POWERFUL in the choruses — encouraging,
 motivating and driving. Sometimes drop to a
 focused and grounded voice that will push the
 class to work for our results. Add urgency to
 your tone when it gets tough.

To also be successful with your voice, you need the following:

- Clarity you need to really use all the muscles in your face to clearly articulate what you are saying.
- Contrast using your voice to help create mood

 sometimes friendly, sometimes aggressive,
 sometimes quiet.
- Pitch making sure your voice doesn't get too squeaky, or low and gravel-like.
- Speed speaking at a LES MILLS CORE pace slow enough that the class can understand you but quick enough to convey a sense of urgency. You want your class to feel like you are 'getting on with it'.

To develop the impact of your vocals you need to try the following:

- Work on highs and lows.
- Replace words with sounds.
- Try to project your voice to people in the back row. Good breathing techniques and a good microphone are essential.
- Film your class. This will highlight your vocal strengths and weaknesses.

For many Instructors it may be a simple case of improving pronunciation and enunciation or varying the tone. However, until you hear yourself on tape, your weaknesses will not be apparent.

3. YOUR ACTIONS

If the track is uplifting, show uplifting actions and facial expressions. Your actions need to be strong. Your posture and movements need to be strong, clean and precise. And when the timing is right and the track changes, smile, laugh, have fun with your class.

Always ask yourself — How can I demonstrate the feel of this track through my body and face?

This is Performance and here's how to refine it: To view enter the password: Imitraining The Ultimate You: https://vimeo.com/123033255

4. ULTIMATE YOU

To truly transcend your Performance, your best version needs to present every time. And who is that? Your Ultimate You. Every time you step on stage, show your true passion, energy and your own authentic self.

Always ask yourself — How would my ultimate self present this class?

Who do you dream of being when you teach? This questionnaire will help you connect with your inner rock star or your ULTIMATE YOU. Answer these questions and begin your journey...

IF YOU ARE 'THE ULTIMATE YOU'... BEFORE YOU CAME INTO THE ROOM...

WHAT WERE YOU DOING?
WHAT DID YOU EAT FOR BREAKFAST?
WHAT KIND OF CAR DO YOU DRIVE?
WHAT IS YOUR FAVORITE MUSIC?
WHO DID YOU SPEAK TO AND WHAT DID YOU SAY?
DESCRIBE YOUR WALK AND YOUR POSTURE.
WHAT IS YOUR PREDOMINANT FACIAL EXPRESSION?

PERFORMANCE

WHAT ARE YOUR 'CHARACTER' GIVENS (EG FIT, STRONG, CONFIDENT, SILLY)?	WHAT DO YOU FEEL ABOUT THE OTHER PEOPLE IN THE ROOM?
DESCRIBE THE LOCATION WHERE YOU TEACH.	OVERALL, WHAT ARE YOU TRYING TO GET FROM THE OTHER PEOPLE?
PHYSICAL ENVIRONMENT: WHAT DOES THE ROOM LOOK LIKE?	DESCRIBE 'THE ULTIMATE YOU':
WHAT DOES THE ROOM TELL YOU ABOUT YOUR CHARACTER?	ONCE YOU HAVE FINISHED PLAYING, ENHANCING AND EXPRESSING, THINK ABOUT THIS
WHAT IS THE EMOTIONAL ENVIRONMENT IN THE ROOM?	What are the conflicts holding you back from becoming THE ULTIMATE YOU? What is stopping you?
HOW DO YOU FEEL WHEN YOU ARE IN THE ROOM?	Write a letter to your 'REAL SELF' from your 'ULTIMATE SELF'. And remember, sharing this exercise with someone else will greatly enhance the experience.
HOW DO PEOPLE GREET YOU? DESCRIBE THE EMOTIONAL RELATIONSHIP BETWEEN YOU AND THE OTHER PEOPLE IN THE ROOM.	

DEAR ULTIMATE YOU,

YOUR PERFORMANCE

Prepare to add some Performance to your final presentation. Use the table below to help you prepare:

PERFORMANCE Q	UESTIONS
Music	What is the feel of this track?
Voice	What is the map of the song's journey?
	Which voice should you use for each section?
	Does the Coaching match the voice to fit with the song?
Actions	How can I demonstrate the feel of this track through my body and face?
Ultimate You	How will you demonstrate your Ultimate You? What will you say, do and feel?

NOTES

PRESENTATION PRACTICE

Congratulations on finishing day two of your LES MILLS CORE Initial Training.	What do you need to improve on?		
Take time now to reflect upon and write down all			
the learnings from today, the feedback you have			
received and how you will implement this into your			
presentation track for your initial training outcome.			
What did you do well?			

WHAT'S NEXT

CERTIFICATION

- Present this release and video the class.
- Video is assessed and feedback given on the 5 Key Elements. Competency in Choreography, Technique, Layer 1 and 2 Coaching is required for program certification.
- Submit video to your team within their time frame.

After Certification

- Gain experience!
- Ask to team-teach
- Ask for feedback from a mentor or your GFM
- Make yourself available to cover classes and try to secure your own regular classes
- Go to all quarterly education and launches
- Attend educational webinars
- Record yourself teaching and examine your own technique, coaching and practice, practice, practice
- Get involved with launching new releases in your club
- Sign up for and attend Advanced Training. This
 training is designed especially for you. It's all
 about helping you find your strengths as a
 fitness leader, and discovering a range of ideas
 to grow and stretch your teaching. As you learn
 to combine all this together, it means you'll be
 able to fill your classes and have longevity as
 the kind of instructor you want to be.

TAKE YOUR TEACHING TO A WHOLE NEW LEVEL

ACTION PLAN

GOAL	SPECIFIC TASKS	WHEN (DATE)
Short Term (next week)		
Medium Term (2 months)		
Long Term (6+ months)		

QUALITY ASSURANCE

We begin this process in your pre-work and then continue it through the two days with your trainer and then feedback from your Initial Training outcome. It is aligned to the 5 Key Elements.

Throughout the 2 days of LES MILLS CORE training your trainer will help you to understand and move towards competency in the first 3 Key Elements — Choreography, Technique and Coaching. You will also learn about Connection and Performance. The 5 Key Elements are the foundation for you to be the best you can be.

You will experience what its like to be a LES MILLS CORE Instructor when you teach your assigned track to the group. This is in preparation for your final presentation, at which time your trainer will tell you whether you are 'good to go' (PASS) or need more time to sharpen your tools before you are ready to teach to class participants (PASS PENDING).

Once you've received your training pass you will continue to work towards Instructor Certification, which is completed post training.

INSTRUCTOR CERTIFICATION

Instructor Certification is exciting! There are several options for instructor certification assessment and your trainer will outline what the process is in your team. You will follow the Les Mills Teaching model and be assessed against the global standard.

It's this global standard that sets Les Mills Group Fitness classes above all others and ensures that class participants experience the same great quality LES MILLS CORE workout no matter where they are in the world... and that's why we say Instructor Certification is exciting!

WE KNOW INSTRUCTORS THRIVE ON FEEDBACK. THE MORE THEY GET, THE BETTER THEY GET

By now you'll be totally hooked on improving your teaching skills and wanting to be an even better version of yourself... so here's the plan. After implementing your Certification feedback into your teaching it's time to ask your agency when you can register for Advanced Training.

WHAT'S ADVANCED TRAINING?

Advanced Training is designed to help you find your strengths as an Instructor and discover a range of ideas to grow. You will learn how to fill your classes and enjoy success and enjoyment in teaching as the kind of Instructor you want to be. You will learn how to become a Group Fitness leader, how to be grounded in the essence of your program, and how to enhance the workout experience for your participants. And, most importantly, you will have an enhanced sense of pleasure and satisfaction from teaching. Your trainer gives you more information about this at the end of Day Two.

. . . AND WE ARE ANOTHER STEP CLOSER TO CREATING A FITTER PLANET

12 BASE MOVES

NUMBER	MOVE NAME	AMOUNT	FOLLOWING THE FORMULA	
1	CRUNCH	8 reps	Position Setup	
			Equipment: None Alignment: Lay down on your back side on, bend knees, feet close to butt, fingertips to temples Muscle Activation: None Execution Setup Body Part and Direction: Lift shoulders off the floor, chin tucked in, slide ribs to hips Target Zone: Shoulders off the floor Stabilization Cues: Keep chin tucked in to protect neck	
2	SINGLE LEG LIFT	8 reps	Position Setup Equipment: None Alignment: Lay down on your back side on, bend knees feet close to butt, hands down by your sides Muscle Activation: Brace your abdominals to keep your lower back down towards the floor Execution Setup Body Part and Direction: Front leg lifts and then the back leg Target Zone: Knees stay over hips, shins parallel to the floor Stabilization Cues: Brace the abs to stabilize hips and pelvis as you move	
3	HOVER (begin on knees and then up to toes)	30 secs each	Position Setup Equipment: None Alignment: Elbows under shoulders, knuckles together, knees just outside hip-width, toes tucked under, hips at shoulder height, back long and straight, shoulders away from ears, eyes to fist. Muscle Activation: Brace abdominals to support lower back and stabilize hips and pelvis Execution Setup Body Part and Direction: None Target Zone: Hips at shoulder height, back long and straight Stabilization Cues: Brace abs to support lower back and stabilize hips and pelvis, push down through forearms to stabilize shoulder girdle	
4	PLANK (begin on knees and then up to toes)	30 secs each	Position Setup Equipment: None Alignment: Hands under shoulders, knees hip width, toes tucked under, hips under shoulder height, back long and straight, shoulders away from ears, eyes at fingertips Muscle Activation: Brace abdominals to support lower back and stabilize hips and pelvis Execution Setup Body Part and Direction: None Target Zone: Hips under shoulder height, back long and straight Stabilization Cues: Brace abs to support lower back and stabilize hips and pelvis, Push down through your hands to stabilize shoulder girdle	

NUMBED	MOVE NAME	AMOUNT	FOLLOWING THE FORMULA
NUMBER		AMOUNT	FOLLOWING THE FORMULA
5	SQUAT	8 reps	Position Setup Equipment: Plate or band used in choreography notes for the current release Alignment: Feet outside hips, toes slightly turned out, knees soft, chin tucked in Muscle Activation: Brace abdominals to support lower back, chest lifted to support thoracic extensors Execution Setup Body Part and Direction: Hips sit back and down, knees move forward in line with toes Target Zone: Butt stops just above knee line Stabilization Cues: Lift chest and brace abdominals to stabilize spine and support thoracic extensors
6	LUNGE	8 reps each	Position Setup
		leg	Equipment: Plate or band used in choreography notes for the current release Alignment: Feet hip-width and step back to 90/90 stride length, hips and shoulders even and square to the front, knees in line with toes, chin tucked in Muscle Activation: Abdominals braced and chest lifted Execution Setup Body Part and Direction: Bend knees, back knee moves towards floor, front knee presses out Target Zone: Front thigh parallel to the floor Stabilization Cues: Lift chest and brace abdominals to stabilize spine and support thoracic extensors
7	PARALLEL	8 reps each	Position Setup
	WOODCHOP	leg	Equipment: Step your right foot into the band, join handles together and hold material
	(with Tube)		edge either single or double band
			Alignment: Step feet wide outside shoulder width, bend right knee and place handles at knee, arms straight, hips and shoulders even and square to the front, chin tucked in Muscle Activation: Abdominals braced and chest lifted Execution Setup Body Part and Direction: Weight shift to the left and bring the tubing across by rotating from the center of the chest Target Zone: Corner to corner Stabilization Cues: Brace abdominals to keep hips stable, chest lifted to engage thoracic extensors
8	REAR LEG	8 reps each	Position Setup
	EXTENSION	leg	Equipment: Step both feet into the band, cross handles and bring to waist Alignment: Feet slightly wider than hip-width, knees bent, chin in
	(with Tube)		Auginment: Peet slightly wider than hip-width, knees bent, chilf in Muscle Activation: Chest up and abdominals braced Execution Setup Body Part and Direction: Push heel back on a 45 degree angle Target Zone: toe to heel Stabilization Cues: Brace abdominals to support lower back and keep hips and shoulders square to the front

APPENDIX 2 continued

NUMBER	MOVE NAME	AMOUNT	FOLLOWING THE FORMULA
9	CROSS CRAWL	8 reps each side	Position Setup Equipment: None Alignment: Lay down on your back side on, knees over hips, shins parallel to the floor, fingertips to temples, chin tucked in Muscle Activation: Brace abdominals to stabilize hips and pelvis Execution Setup Body Part and Direction: Twist to the front extending back leg to 45 angle, front leg bent Target Zone: Shoulder to knee Stabilization Cues: Brace abdominals to stabilize hips and pelvis as you move
10	SIDE HOVER (begin on one knee then up to toes)	30 secs each	Position Setup Equipment: None Alignment: Front on, elbow under shoulder, bottom leg bent, top leg straight, head in line with spine, lift bottom hip, top arm reaches up Muscle Activation: Brace abs to keep hips square to the front Execution Setup Body Part and Direction: None Target Zone: Hip lifts away from floor Stabilization Cues: Brace abdominals to keep hips square to the front, push down through forearm to stabilize shoulder
11	BRIDGE	8 reps	Position Setup Equipment: None Alignment: Lay down on your back side on, bend knees feet close to butt, hands down by your sides, chin tucked in Muscle Activation: Squeeze butt to initiate hip lift Execution Setup Body Part and Direction: Hips lift towards ceiling Target Zone: Lift hips Stabilization Cues: Squeeze butt to level hips and support lower back
12	BACK EXTENSION	8 reps	Position Setup Equipment: None Alignment: Lay on your belly, heels together, stack hands under forehead, chin tucked in, eyes down Muscle Activation: Squeeze butt to protect lower back Execution Setup Body Part and Direction: Lift chest and elbows off the floor Target Zone: Lift chest and elbows off floor Stabilization Cues: Squeeze butt to protect lower back. Squeeze shoulder blades to keep elbows wide and engage upper back

THE SMARTBAND / RESISTANCE TUBE

There has been some criticism of traditional core training in that it doesn't have enough carry over to functional activities. In LES MILLS CORE the resistance band allows us to stand and weight bear while providing different angles of pull to challenge the core. This means we get a training stimulus in the position we would need it most often.

The versatility of the resistance band also allows us to train at different speeds — this means exercises such as Woodchops can be performed with varying tempos and through a wide range of motion safely. It is also easy to use and cheap. It has a wide appeal across lots of age groups and as you will see, it allows us to take a simple exercise and make it more demanding.

We use the resistance band in the standing tracks (3 and 4) and occasionally we will see it used in some of our floor exercises to make them more challenging.

The main considerations when using the band:

- The point of maximum resistance is different when you use the band when compared to free weights.
- A band allows you to provide resistance to movements in other directions other than straight down as we see in body weight or freeweight exercises.
- There is no momentum when you use a band so it is often safer to use during quicker and large-range exercises such as Woodchops.
- There are some common rules when using a band that we need to cover.

RESISTANCE

One of the best ways to illustrate the usefulness of a resistance band is to look at its resistance properties and compare these with free-weight training.

When we use free weights the line of pull is always straight down — in line with gravity.

BICEP CURL

With free weights the point of maximum resistance occurs when the line of pull is furthest away from the muscle attachment.

We can illustrate this with a Bicep Curl. At the start of the Curl the dumbbell is pulling straight down from the starting position. As we move through the range, it continues to pull straight down as the dumbbell arcs forward. At the mid-point of the curl we achieve maximum resistance as the line of pull is furthest away from the muscle attachment at the elbow. At this point you have the weight being pulled by gravity times the length of the lever of the lower arm which creates extra resistance for biceps to work against.

As we travel through the arc past this point, the load reduces again as the line of gravity moves back toward the working muscle. This happens with any free-weight exercise.

SIDE RAISE

The same occurs with a Side Raise – remember, gravity always pulls straight down – so we have a linear downward pull at the start which continues as we arc up. We get to a maximum point of pull as the weight gets to shoulder level as this is the point where the lever is longest and the weight is therefore the furthest away from the working muscle – in this case the deltoid.

So how does this compare with a resistance band?

BICEP CURL

With a band, resistance gets harder as we move further through the exercise. Let's go back to the Bicep Curls now. If we stand on the band directly under the hand, we have the same line

APPENDIX 3 continued

of pull at the start — but as the hand arcs forward the line of pull changes. It's now angled slightly backward. So we get our first point of resistance as a result of using a longer lever happening earlier as the arm reaches right angles to the new line of pull.

THEN another specific effect of the band comes into play. As the band lengthens, the rubber has to distort — and this increases the resistance — so the more it stretches, the more load you work against. So we have to work harder all the way into the top half of the Curl.

To summarize: with the dumbbell we have a small arc of maximum resistance in the middle of the Curl; whereas with a band, the load is quite different – it can occur at a different point, depending on the line of pull, and then continue to increase as you move through the range.

SIDE RAISE

Same with the Side Raise, if we anchor the band under the opposite foot. We have our first point of resistance halfway up through the movement — and then the resistance continues to increase as we get closer to shoulder height as the tube distorts and becomes harder to lengthen. So, once again, we have a greater arc of maximum pull.

WOODCHOP

When working diagonally, the band pulls directly against the movement. Let's explore this concept with a different type of movement pattern. Let's look at a Woodchop, starting with a dumbbell.

Now remember the line of pull is always straight down — so even though we are moving in an arc through rotation, the dumbbell continues to pull this way.



For an exercise to be effective the line of resistance should pull against the line of movement. If we have a movement going one way and resistance going in a different direction, we compromise the effectiveness and the safety of the movement.

Let's compare this with a Woodchop using a band. We simply anchor the weight under the foot, shift the foot out and now the resistance is going to pull directly against the line of the movement rather than straight down as we saw with the dumbbell.

This is what makes the resistance band so versatile: just anchor it and you change the line of pull depending on the movement you want to resist rather than having to rely on gravity.

HIP STABILIZERS

Normally we would need to lie down on our side to work our side hip stabilizers to allow gravity to resist the movement we are wanting to train. A band allows us to work our hip abductors while standing rather than lying down using gravity. Once again, we can use the band by wrapping it in the direction needed to resist the movement and perform the same exercise in standing. We can adjust the resistance by altering the tension of the band in its start position. A shorter length across the same distance — in this case between the feet — means that the band is already distorted, creating pre-tension on the band and making the exercise more difficult.

FUNCTIONAL STRENGTH

As mentioned earlier, there has been some criticism that core training doesn't have enough carry-over to functional activities. The band allows us to stand and weight-bear while providing different angles of pull to challenge the core, therefore providing a training stimulus in the position we would need it most often.

MOMENTUM

Let's explore another aspect of free-weight exercises — let's look at momentum.

We can use the Woodchop again as we often see this exercise performed through a large range with quite a quick movement.

When lifting a dumbbell, once you get it moving — ie overcoming its inertia — it develops its own momentum which assists you through the range, then your muscles have to slow it down at the end of the range to finish the move. So your muscles accelerate the movement at the start and decelerate the movement at the end. This deceleration can be very stressful particularly at end ranges of motion.

With a band, there is no momentum because the resistance keeps increasing as it moves further through the range. Therefore you are pulling all the way through with no deceleration phase.

This makes a band safer to use during wide-range faster movements such as Woodchops.

WEIGHT PLATE USE IN LES MILLS CORE

The secret to the continuing success of this program is to keep providing a challenge to the target muscles of the core while at the same time providing a range of options so participants of all levels of fitness can leave the workout feeling successful.

One way to do this is with weighted plates. This is only an option for advanced participants who feel they can complete exercises such as crunches and oblique work with great form and feel that they want another challenge.

When we researched the effectiveness of different movement patterns and their effects on core

training in 2010, we found that Hovers and weightbearing exercises that recruited the upper and lower limb muscles created a huge demand on the core muscles well in excess of isolated exercises such as Crunches and Oblique Twists.

Therefore, in Tracks 2 and 5 we superset Hovers with isolated exercises such as Crunches and oblique work. The hovers provide the 'big bang' training for the core while the isolated exercises create that degree of intensity which you get when you use one or two muscles in a very isolated, specific manner. It's like comparing an isolated exercise such as a Leg Extension with a Squat. Leg Extensions create that isolated burn while Squats deliver functional strength through muscle integration.

It's in the isolated exercises such as Crunches and oblique work where we see benefit in adding weighted resistance.

There are two things you have to remember when using a free weight with this type of training:

- Free weights always pull straight down.
- The further away the weight is from the working muscle the harder the muscle works.

UPPER ABDOMINAL EXERCISES

As you curl up, your trunk arcs up toward your pelvis.

At this point you only get resistance from your upper body — and in fact as your upper body shortens (as you curl up), it gets a little easier for you at the top of the curl.

If you add a free weight plate to your Crunch and you fix it over your chest, the weight will pull straight down —the weight plate will resist the

APPENDIX 3 continued

upward movement of your curl — so you have added some extra work to this movement. However, the weight plate is very close to the working muscles and therefore gives some resistance but not much.





If we use the effect of leverage and move the plate away from your upper abs and to your forehead, like the peak of a cap, you will have to work harder as you are now using the effect of gravity and leverage.

This increased work would all be lost if you bring the plate down as you lift up. If you're going to maximize this effect then the plate needs to stay where it started during the curl.

Similarly we can place the plate over the shoulder in Oblique Twists.

LOWER ABDOMINAL EXERCISES

The same thing applies to lower abdominal exercises. In these patterns we use the hip flexors to challenge the ability of the lower abs to hold the lower back toward the floor. As the leg extends out, the hip flexors work harder and try and lift the lower back off the floor — the lower abs brace against this to keep the back down.

We can add to this challenge by bringing another muscle group into play – the lats. Latissimus dorsi will also try and lift the back when it contracts – again the lower abs work against this to maintain the back toward the floor.



So how do we bring in the lats? We raise a plate over the head. Now we have the lower abs working against the hip flexors as the legs extend and the lats increasing the challenge to keep the back toward the floor as they work against the plate.

Once again, by using the plate we take a lowintensity, isolated move and ramp it up to make it harder. Obviously we can use the same effect with oblique work and back work.

FUNCTIONAL STRENGTH EXERCISES

We can also add weight to lunge and squat patterns in the standing tracks to create more demand on the lower limb muscles and trunk stabilisers. We will still use tubing when the resistance required is not in line with gravity in exercises such as Woodchops and again, the weighted options are only for those needing an extra challenge.

The secret to maintaining levels of improvement in any training program is to keep challenging the muscles in different ways.

Ever wonder why steady-state cardio training like jogging only works to a certain point?

It's because once your body adapts to that level of training it's very hard to get it to change. Unfortunately most people in that situation just keep adding volume at the same intensity to keep improving — that's why people go from 5km to 10km to half marathons and full marathons. But increasing volume is not always the answer. And it frequently results in overuse injuries.

We promise to give you enough intensity in 30 minutes to leave your core feeling like it's just run a marathon.

CORE EXERCISES THAT INCORPORATE DISTAL TRUNK MUSCLES MAXIMIZE PRIMARY TRUNK MUSCLE ACTIVATION.

Jinger S. Gottschall 1, Jackie Mills 2, and Bryce Hastings 2

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The American College of Sports Medicine and the United States Department of Health and Human Services recommend that healthy adults, under 65 years of age, complete a strength training routine that includes core exercises twice a week. They specifically advocate core training as a means to improve stability, reduce injury, and maintain mobility. There are countless exercises that target the primary core trunk muscles (abdominal and lumbar) with the aim of providing these benefits. However, it is unknown which exercises elicit the greatest activation thereby maximizing strength and functional gains.

Purpose

To determine whether core exercises that require activation of the distal trunk muscles (deltoid and gluteal) elicit greater activation of primary trunk muscles in comparison to core exercises that only require activation of the primary trunk muscles.

Methods

Fourteen participants, 7 men and 7 women, completed 16 randomly assigned exercises (for example, traditional trunk flexion, upper locust trunk extension, unilateral standing balance, and forearm plank variations). Each exercise was performed for 10 repetitions at a cadence of 15 repetitions per minute with the exception of the balance poses,

which were performed statically for 20 seconds. Therefore, all the exercises were analyzed during a 20 second period of activation. We measured surface electromyography of the anterior deltoid, rectus abdominus, external abdominal oblique, lumbar erector spinae, and gluteus maximus. In order to determine if the muscle activation differed between exercises, we normalized the active muscle periods, performed a repeated-measures ANOVA and defined the statistical significance at p < 0.05.

Results

Activation of the abdominal and lumbar muscles was greatest during the exercises that required activation of deltoid and gluteal muscles. For instance, the forearm plank variations required over two times the average activity of the rectus abdominus, external abdominal oblique, and lumbar erector spinae compared to a traditional trunk flexion and extension exercise (p = 0.02). CONCLUSION: When completing the core strength guidelines, a routine that incorporates the activation of distal trunk musculature would be optimal in terms of maximizing strength, improving stability, reducing injury, and maintaining mobility.

PROGRAM LAUNCH

A great launch is vital to the success of LES MILLS CORE in your club.

When done right, it is the biggest opportunity to grow your membership and engage existing members. Launch activations or events can play a strong role in motivating members to attend the gym more often, dialing up the fun factor and generating a strong PR hook to generate buzz around your club.

EVERYONE at the club needs to get behind it and instructors should be placed centre-stage (not just on launch day). Instructors are a powerful marketing hook for attracting people to your club and event. A single great Instructor can attract and retain hundreds of members to a club, and the same principles can apply to online workouts. Ensure your team is totally prepared to teach awesome launch classes and practicing as a team is really important.

HERE'S A LIST OF THINGS TO DO PRE-LAUNCH: 6 weeks out:

- Get together and brainstorm with your GFM or club manager. Set a launch/event goal and make a plan
- Choose the right format for a launch event and timetable schedule – both inside and outside your club – live or online
- Inter-club meetings to delegate and connect on tasks
- In-house training regular training sessions for choreography rehearsal, fitness and peer assessment
- Complete a marketing and communications plan – this includes preparations of materials like posters, guest passes, banners, brochures
- Ensure you have an attractive retail message to capture the attention of potential members and leads, for example a FREE month (member-

- get-member campaign) or FREE month of 30-minute classes
- Staff classes full dress rehearsals to internal staff
- Club support educate and involve all instructors, staff, personal trainers, and membership consultants/sales staff

BUILDING UP TO THE LAUNCH:

4 weeks out:

- Promote your launch and build excitement for at least two weeks prior. This includes inviting members and local media, updating your website, posting to social media and asking your fellow instructors to post as well
- Distribute guest passes to lower intimidation factors for new members and provide a no obligation opportunity for members to trial the program
- Launch dates
- Orientation classes
- Strategies for overcrowding and flexible timetable
- Booking and payment systems prepare your reception team to answer inquiries and take bookings

TIP: Continue promoting your new program for at least four weeks post its launch!

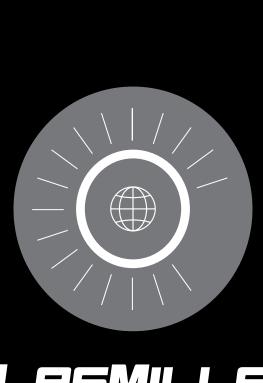
QUARTERLY LAUNCHES:

These launches should be treated as major events in your club. Conducting an event is the easiest way to get more members hooked on group fitness.

- Make a big deal out of Quarterly Launches to keep the program new and fresh and to keep the passion alive
- Build a loyal following of members by investing in the product and host four Quarterly Launch events per year to drive excitement around each new workout

- Promote your events and program by regularly updating your in-club program promotional material. Use the posters and new trailer videos provided quarterly. Decorate your studio/ club environment and make it feel like an experience!
- Ensure you have an attractive retail mechanism to capture attention of potential members and leads
- You need a LES MILLS CORE club representative that keeps the LES MILLS CORE culture alive in your club and works with the GFM or Club Manager to keep the profile of the program high
- Invite new instructor recruits to shadow or team teach – events are a great opportunity to build confidence, sharpen skills and strengthen team culture
- Hand out free passes to participants to bring friends along to Club Launch day
- Send exclusive event invites to your local media or popular community influencers to help you to reach a new wave member or demographic (optional)
- Use a theme for your quarterly launches to heighten energy, for example:
- Super Saturday all of the classes are launched on a Saturday
- Manic Monday all of the classes are launched on a Monday
- World Class Wednesday all of the classes are launched on a Wednesday
- Happy Hour all of your classes are launched late at night, e.g. midnight
- Halloween / Back to School / Christmas line up your class launches around a topical or holiday during the year
- Charitable / volunteer occasion provide free classes and encourage members to bring a donation to support a given cause or charity

A GREAT LAUNCH IS VITAL TO THE SUCCESS OF LES MILLS CORE IN YOUR CLUB



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