

# Fighting FIRE with Fitness

A MANUAL SUPPORTING THE FIRE FIGHTER PHYSICAL FITNESS MAINTENANCE PROGRAM

## Training Log Book



Canada 

The fire fighting profession is inherently physically demanding. The safety of our community, your team, and your own safety, depends on every firefighter achieving and maintaining a high degree of physical fitness. The Department of National Defence and Canadian Forces at large depends on the readiness of its firefighters.

This manual has been prepared to help you achieve a level of fitness which will allow you to safely execute the duties of your chosen profession. With the assistance of the exercise physiology laboratory at York University, the Canadian Forces Personnel Support Agency and ParticipACTION developed this program specifically for DND/CF firefighters.

My office will provide the technical assistance, equipment, and necessary time to ensure that all resources to achieve peak physical fitness levels are within your reach. However, it is your responsibility to ensure that you train and achieve the appropriate level of fitness. This manual will assist you. You owe it to your community and yourself to be at your best!

Be fit and prepared!

Gaétan Morinville  
Major  
Canadian Forces Fire Marshal

**NAME:** \_\_\_\_\_

**RANK:** \_\_\_\_\_

**SN/PRI:** \_\_\_\_\_

**PHONE NUMBER:** \_\_\_\_\_

**BASE:** \_\_\_\_\_



## When planning your training program remember the following:

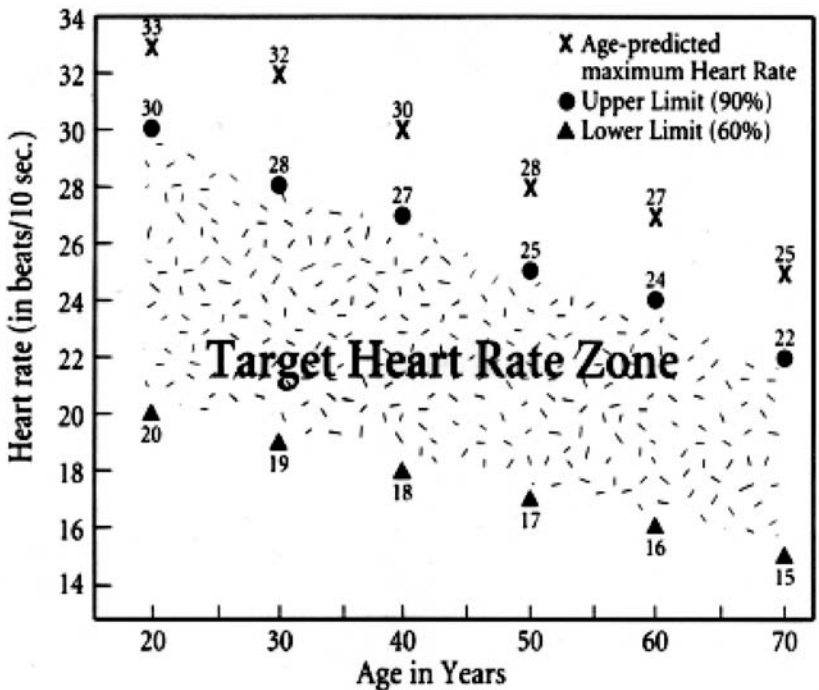
### A. the FITT Principle

<b>F - Frequency</b>	3-5 times per week
<b>I - Intensity</b>	60-90% of age-predicted maximum heart rate
<b>T - Time</b>	20-60 minutes
<b>T - Type</b>	Activities that are continuous and rhythmical, and use large muscle groups (e.g., walking, jogging, cycling, rowing, stair climbing, etc.)

### B. Calculating the Target Heart Rate Zone (60%-90% of your age predicted maximum)

Men	Women
$(220 - \text{age}) \times 60\%$ = (            ) beats/min (lower value).	$(226 - \text{age}) \times 60\%$ = (            ) beats/min (lower value).
$(220 - \text{age}) \times 90\%$ = (            ) beats/min (higher value).	$(226 - \text{age}) \times 90\%$ = (            ) beats/min (higher value).

### Target Heart Rate Zone Chart





## **RATING OF PERCEIVED EXERTION SCALE**

<b>Rating</b>	<b>How Hard Does The Activity Feel?</b>
6	
7	VERY, VERY LIGHT
8	
9	VERY LIGHT
10	
11	FAIRLY LIGHT
12	
13	SOMEWHAT HARD
14	
15	HARD
16	
17	VERY HARD
18	
19	VERY, VERY HARD
20	

### **C. Warm-Up and Cool-Down**

A 5-10 minute warm-up and cool-down including stretching exercises is essential during each exercise session. Pay particular attention to warming up your legs, lower back, hip, groin and shoulder areas.

#### **Stretching Properly**

- Warm the muscles with light activity before stretching.
- Stretch slowly and smoothly, do not bounce.
- Hold the stretched position at the point of tension, never pain.
- As tension subsides, stretch further and hold the new position.
- Avoid stretching injured or painful muscles or ligaments.
- Breathe slowly and rhythmically, never hold your breath.
- Hold each stretch for at least 10 seconds. Work up to holding for 30 seconds.
- Do each stretch in the series one time.



## Stretching Exercises

### Overhead Stretch

Interlock your fingers above your head, straighten your arms and stretch them up and slightly back.



### Side Stretch

Reach one arm overhead and the other down the side of the leg.



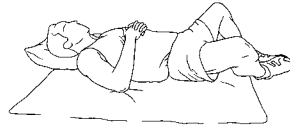
### Sit and Reach

One leg straight, one bent with sole of foot near knee of straight leg. Reach out along straight leg.



### Groin Stretch

Relax with your knees bent, soles of feet together and knees apart for a comfortable stretch. For an added stretch, put gentle pressure on the insides of your knees with your hands.



### Low back Stretch

Pull one knee toward your chest by grasping the back of the thigh with your hands. Keep the back of your head touching the floor.



### Leg Crossover

Place one bent leg across the other, stretching it toward the floor with gentle pressure from the opposite hand. Look in the other direction toward your outstretched arm.





### Lunge

Crouch over your bent front leg with the knee directly above the ankle. Place the knee of the back leg on the floor, then gently press the hip downward.



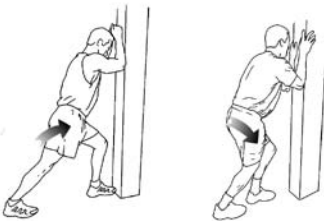
### Thigh Stretch

Bend one knee, grasp the ankle, and pull your heel gently toward the buttock. Place your other hand on the wall for balance if you like, and don't arch your back.



### Calf Stretch

One foot in front of the other and feet pointing straight ahead. Rock forward toward a wall bending the front leg to stretch the calf muscle of the back (straight) leg. Repeat with legs closer together and squatting to stretch the soleus muscle lower in the back leg.



### Ankle Rocker

Slowly rock on the outside of the feet, from heels, to side, to toes, to the other side. The knees should make a circular motion.





# Guidelines For The Training Prescription

## Fitness Checks

Seven “Fitness Checks” are conducted in Week 1. These tests will be used to measure your progress each month. Instructions for the Fitness Checks are on pages 25–33 of the Fighting Fire with Fitness manual.

## Continuous Aerobic Training

Other than during Week 1, continuous aerobic sessions are done on Days 1 and 5. The duration of each aerobic session is noted in the outline. Monitor your exercise intensity with a combination of heart rate monitoring and Rating of Perceived Exertion. It is also important to focus on maintaining an intensity where you can “just talk” (JT). If you can’t maintain a conversation, you are working too hard. Adjust your pace accordingly.

## Strength Training

Other than during Week 1, one upper-body and one lower-body strength circuit are done on Days 2, 4 and 6. There are four circuits to choose from for each.

**Only lift a load that is reasonable for you.** If you can’t complete the number of repetitions prescribed, be sure to record the load you do lift and decrease the weight for the second set.

## AbCore Exercises

AbCore exercises are done after your continuous aerobic session on Days 1 and 5.

## Active Rest

Every Day 3 is an active rest day. This day is for other activities you enjoy. Play a sport, go for a hike ...



## Training Log Instructions

### Completing Your Training Log

- There are two Training Logs per sheet. **Use one for each training session.**
- A - Indicate the **program** you are following (improvement or maintenance). Include the **week** (1-12), **day** (1-7) and **date**.
- B - Indicate the activity (continuous aerobic, sport activity, etc.). Include the **Load (L)**, **Time (T)**, **Distance (D)** and **Repetitions (R)** as appropriate.
- C - Indicate the **type of equipment** used (machine, free weights, body weight or medicine ball) in the top row. In succeeding rows, list the exercises performed along with the **Load (L)** and **Repetitions (R)** for each set completed.

<b>A PROGRAM / PROGRAMME:</b> <i>improvement</i> Week/Semaine: <i>4</i> Day/Jour <i>4</i> Date: <i>July 10, 2005</i>									
<b>B AEROBIC / AÉROBIE</b>	<b>L/C</b>		<b>T</b>		<b>D</b>		<b>R</b>		
<b>C STRENGTH / FORCE</b> <i>machine</i>	<b>SET/Série 1</b>		<b>SET/Série 2</b>		<b>SET/Série 3</b>		<b>SET/Série 4</b>		
	L/C	R	L/C	R	L/C	R	L/C	R	
<i>Bench press</i>	<i>120 lb</i>	<i>12</i>	<i>120 lb</i>	<i>12</i>					
<i>Lat pull-downs</i>	<i>90 lb</i>	<i>12</i>	<i>90 lb</i>	<i>12</i>					
<i>Shoulder press</i>	<i>80 lb</i>	<i>12</i>	<i>80 lb</i>	<i>12</i>					
<i>Bicep curls</i>	<i>60 lb</i>	<i>12</i>	<i>60 lb</i>	<i>12</i>					
<i>Triceps extension</i>	<i>60 lb</i>	<i>12</i>	<i>60 lb</i>	<i>12</i>					
<i>Knee extensions</i>	<i>80 lb</i>	<i>12</i>	<i>80 lb</i>	<i>12</i>					
<i>Leg press</i>	<i>200 lb</i>	<i>12</i>	<i>200 lb</i>	<i>12</i>					
<i>Hamstring curls</i>	<i>60 lb</i>	<i>12</i>	<i>60 lb</i>	<i>12</i>					
<i>Hip abduction</i>	<i>40 lb</i>	<i>12</i>	<i>40 lb</i>	<i>12</i>					
<i>Hip adduction</i>	<i>40 lb</i>	<i>12</i>	<i>40 lb</i>	<i>12</i>					
<i>Calf raises</i>	<i>140 lb</i>	<i>12</i>	<i>140 lb</i>	<i>12</i>					

This would reflect 1 UB Circuit, 1 LB Circuit 2 sets X 12 reps using the stack weights program.





## Training Prescription for Weeks 1 to 4

DAY 1 MONDAY	DAY 2 TUESDAY	DAY 3 WEDNESDAY	DAY 4 THURSDAY	DAY 5 FRIDAY	DAY 6 SATURDAY	DAY 7 SUNDAY
<b>Power Check:</b> Vertical jump Standing long jump <b>Aerobic Check:</b> Rockport 1-Mile Walk Test or 20 meter shuttle run	<b>Strength Check:</b> Bench press Squat Push-ups Curl-ups	<b>ACTIVE REST</b>	<b>Strength</b> 1 UB Circuit 1 LB Circuit 2 sets x 15 reps	<b>ACTIVE REST</b>	<b>Continuous Aerobic</b> 20 min. "JT"  <b>AbCore</b> 1 Circuit	<b>REST</b>
<b>Continuous Aerobic</b> 20 min. "JT"  <b>AbCore</b> 1 Circuit	<b>Strength</b> 1 UB Circuit 1 LB Circuit 2 sets x 15 reps		<b>Continuous Aerobic</b> 20 min. "JT"  <b>AbCore</b> 1 Circuit		<b>Strength</b> 1 UB Circuit 1 LB Circuit 2 sets x 15 reps	
<b>Continuous Aerobic</b> 20 min. "JT"  <b>AbCore</b> 1 Circuit	<b>Strength</b> 1 UB Circuit 1 LB Circuit 2 sets x 12 reps		<b>Continuous Aerobic</b> 20 min. "JT"  <b>AbCore</b> 1 Circuit		<b>Strength</b> 1 UB Circuit 1 LB Circuit 2 sets x 12 reps	
<b>Continuous Aerobic</b> 20 min. "JT"  <b>AbCore</b> 1 Circuit	<b>Strength</b> 1 UB Circuit 1 LB Circuit 2 sets x 12 reps		<b>Continuous Aerobic</b> 20 min. "JT"  <b>AbCore</b> 1 Circuit		<b>Strength</b> 1 UB Circuit 1 LB Circuit 2 sets x 12 reps	

### Fitness Check Worksheet Week 1

Aerobic Check		Power check		Strength Checks	
<b>Rockport 1-mile walk test</b>		<b>Vertical Jump</b>		<b>Bench Press</b>	
		Standing height		Weight/# reps.	
Time (to Nearest second)		Jump height		<b>Squat</b>	
				Weight/# reps.	
Heart Rate (beats per minute)		Difference		<b>Push-ups</b>	
				(# of repetitions)	
Fitness Category		<b>Standing Long Jump</b>		<b>Curl-ups</b>	
		(best of 3 attempts)		(# of repetitions)	



## Training Prescription for Weeks 5 to 8

DAY 1 MONDAY	DAY 2 TUESDAY	DAY 3 WEDNESDAY	DAY 4 THURSDAY	DAY 5 FRIDAY	DAY 6 SATURDAY	DAY 7 SUNDAY
<b>Power Check:</b> Vertical jump Standing long jump <b>Aerobic Check:</b> Rockport 1-Mile Walk Test or 20 meter shuttle run	<b>Strength Check:</b> Bench press Squat Push-ups Curl-ups	<b>ACTIVE REST</b>	<b>Strength</b> 1 UB Circuit 1 LB Circuit 2 sets x 10 reps	<b>ACTIVE REST</b>	<b>Continuous Aerobic</b> 25 min. "JT"  <b>AbCore</b> 1 Circuit	<b>REST</b>
<b>Continuous Aerobic</b> 25 min. "JT"  <b>AbCore</b> 1 Circuit	<b>Strength</b> 1 UB Circuit 1 LB Circuit 2 sets x 10 reps		<b>Strength</b> 1 UB Circuit 1 LB Circuit 2 sets x 10 reps	<b>Continuous Aerobic</b> 25 min. "JT"  <b>AbCore</b> 1 Circuit	<b>Strength</b> 1 UB Circuit 1 LB Circuit 2 sets x 10 reps	
<b>Continuous Aerobic</b> 25 min. "JT"  <b>AbCore</b> 1 Circuit	<b>Strength</b> 1 UB Circuit 1 LB Circuit 2 sets x 10 reps		<b>Strength</b> 1 UB Circuit 1 LB Circuit 2 sets x 10 reps	<b>Continuous Aerobic</b> 25 min. "JT"  <b>AbCore</b> 1 Circuit	<b>Strength</b> 1 UB Circuit 1 LB Circuit 2 sets x 10 reps	
<b>Continuous Aerobic</b> 25 min. "JT"  <b>AbCore</b> 1 Circuit	<b>Strength</b> 1 UB Circuit 1 LB Circuit 2 sets x 8 reps		<b>Strength</b> 1 UB Circuit 1 LB Circuit 2 sets x 8 reps	<b>Continuous Aerobic</b> 25 min. "JT"  <b>AbCore</b> 1 Circuit	<b>Strength</b> 1 UB Circuit 1 LB Circuit 2 sets x 8 reps	

### Fitness Check Worksheet Week 5

Aerobic Check		Power check		Strength Checks	
Rockport 1-mile walk test		Vertical Jump Standing height		Bench Press Weight/# reps.	
Time (to Nearest second)		Jump height		Squat Weight/# reps.	
Heart Rate (beats per minute)		Difference		Push-ups (# of repetitions)	
Fitness Category		Standing Long Jump (best of 3 attempts)		Curl-ups (# of repetitions)	



## Training Prescription for Weeks 9 to 12

DAY 1 MONDAY	DAY 2 TUESDAY	DAY 3 WEDNESDAY	DAY 4 THURSDAY	DAY 5 FRIDAY	DAY 6 SATURDAY	DAY 7 SUNDAY
<b>Power Check:</b> Vertical jump Standing long jump <b>Aerobic Check:</b> Rockport 1-Mile Walk Test or 20 meter shuttle run	<b>Strength Check:</b> Bench press Squat Push-ups Curl-ups	<b>ACTIVE REST</b>	<b>Strength</b> 1 UB Circuit 1 LB Circuit 2 sets x 8 reps	<b>ACTIVE REST</b>	<b>Continuous Aerobic</b> 30 min. "JT"  <b>AbCore</b> 1 Circuit	<b>REST</b>
<b>Continuous Aerobic</b> 30 min. "JT"  <b>AbCore</b> 1 Circuit	<b>Strength</b> 1 UB Circuit 1 LB Circuit 2 sets x 8 reps		<b>Strength</b> 1 UB Circuit 1 LB Circuit 2 sets x 8 reps	<b>Continuous Aerobic</b> 30 min. "JT"  <b>AbCore</b> 1 Circuit	<b>Strength</b> 1 UB Circuit 1 LB Circuit 2 sets x 8 reps	
<b>Continuous Aerobic</b> 30 min. "JT"  <b>AbCore</b> 1 Circuit	<b>Strength</b> 1 UB Circuit 1 LB Circuit 2 sets x 6-8 reps		<b>Strength</b> 1 UB Circuit 1 LB Circuit 2 sets x 6-8 reps	<b>Continuous Aerobic</b> 30 min. "JT"  <b>AbCore</b> 1 Circuit	<b>Strength</b> 1 UB Circuit 1 LB Circuit 2 sets x 6-8 reps	
<b>Continuous Aerobic</b> 30 min. "JT"  <b>AbCore</b> 1 Circuit	<b>Strength</b> 1 UB Circuit 1 LB Circuit 2 sets x 6-8 reps		<b>Strength</b> 1 UB Circuit 1 LB Circuit 2 sets x 6-8 reps	<b>Continuous Aerobic</b> 30 min. "JT"  <b>AbCore</b> 1 Circuit	<b>Strength</b> 1 UB Circuit 1 LB Circuit 2 sets x 6-8 reps	

### Fitness Check Worksheet Week 9

Aerobic Check		Power check		Strength Checks	
<b>Rockport 1-mile walk test</b>		<b>Vertical Jump</b>		<b>Bench Press</b>	
		Standing height		Weight/# reps.	
Time (to Nearest second)		Jump height		<b>Squat</b>	
				Weight/# reps.	
Heart Rate (beats per minute)		Difference		<b>Push-ups</b>	
				(# of repetitions)	
Fitness Category		<b>Standing Long Jump</b>		<b>Curl-ups</b>	
		(best of 3 attempts)		(# of repetitions)	



## Upper Body Exercises

BODY PART	STACK WEIGHTS	FREE WEIGHTS	BODY WEIGHTS	MEDICINE BALLS
CHEST	Bench press	Bench press (Barbell)	Push-ups (Fingers forward)	Chest press (Lying on back)
BACK	Lat pull-downs	Bent-over rows w/bench (Dumbbells)	Back extensions (machine)	Dead lifts
SHOULDER	Shoulder press	Seated press (Dumbbells)	Push-ups (Hands wide)	Seated press
BICEP	Bicep curls	Bicep curls	Chin ups (Hands under)	Bicep curls
TRICEP	Triceps extensions	Overhead triceps extension	Triceps dips	Triceps overhead Press
FOREARM	--	Wrist rollers	Ball squeezes	--

## Lower Body Exercises

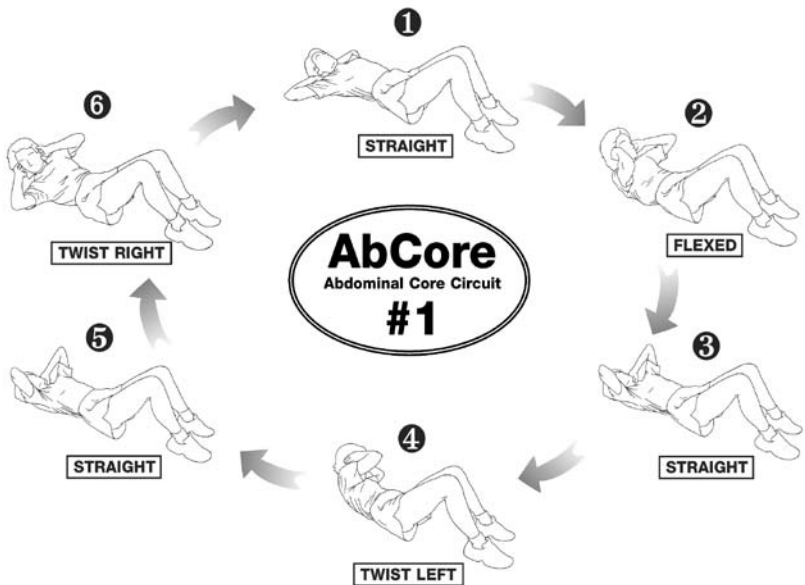
BODY PART	STACK WEIGHTS	FREE WEIGHTS	BODY WEIGHTS	MEDICINE BALLS
QUADRICEPS	Quad extensions	Squats	Squats	Knee extensions
LEG	Leg press	Step ups	Step ups	Step ups
HAMSTRINGS	Hamstring curls	Dead lifts	Back extensions (machine)	Back extensions (machine)
THIGH	Hip abduction hip adduction	Hip abduction hip adduction (with bands)	Lying hip abduction hip adduction	Squats
CALF	Calf extensions --	Calf raises	Calf raises	Calf raises



## Abdominal Core (AbCore) Circuit #1

### Floor Exercises

- Keep the lower body stable with the feet flat on the floor. Use the abdominal muscles to lift and twist the upper body as shown in the sequence.
- One complete sequence involves moving from position 1 through position 6, as per the diagrams below. When you get to position #6, continue to #1 and repeat the sequence.
- To begin, do the sequence of exercises (positions 1 through 6) 20 times for one set. Repeat the sequence two more times for a total of 3 sets of 20. Rest 2-3 minutes between sets.
- When you can do 3 x 20 comfortably, increase to 3 x 30, then again to 3 x 40.
- When you can do 3 x 40 comfortably, move on to Circuit #2.

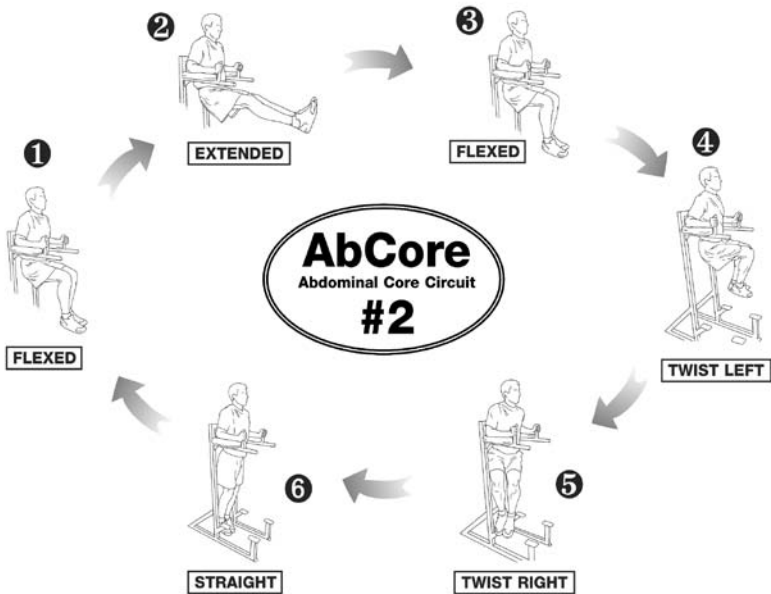




## Abdominal Core (AbCore) Circuit #2

### Supporting on a Dip Bar

- Support the upper body on a dip bar to keep it stable. Use the abdominal muscles to move the lower body as shown in the sequence.
- One complete sequence involves moving from position 1 through position 6, as per the diagrams below. When you get to position #6, continue to #1 and repeat the sequence.
- To begin, do the sequence (positions 1 through 6) 20 times for one set. Repeat two more times for a total of 3 sets of 20. Rest 2-3 minutes between sets.
- When you can do 3 x 20 comfortably, increase to 3 x 30, then again to 3 x 40.
- When you can do 3 x 40 comfortably, move on to Circuit #3.

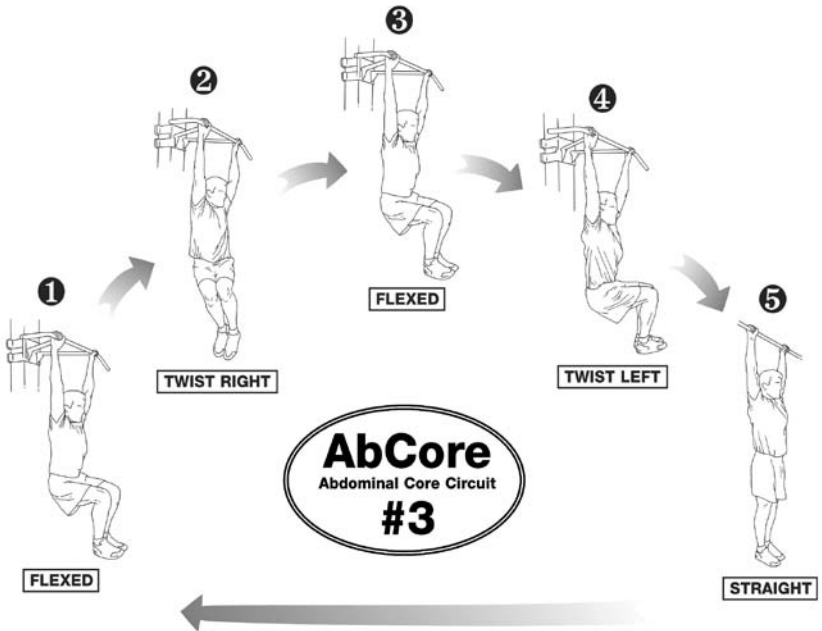




## Abdominal Core (AbCore) Circuit #3

### *Hanging from a Chin Bar*

- Hang from a chin bar and keep the upper body in a stable position. Use the abdominal muscles to move the lower body as shown in the sequence.
- One complete sequence involves moving from position 1 through position 5, as per the diagrams below. When you get to position #5, continue to #1 and repeat the sequence.
- To begin, do the sequence (positions 1 through 5) 20 times for one set. Repeat two more times for a total of 3 sets of 20. Rest 2-3 minutes between sets.
- When you can do 3 x 20 comfortably, increase to 3 x 30, then again to 3 x 40.





## The Maintenance Program

If you have successfully completed the test circuit, or you just finished the three-month conditioning improvement program, the following maintenance program will be of interest to you. While the intensity of training must be at least the same as it was in your conditioning program, you can decrease the total volume of work per week. You need only to complete two continuous aerobic sessions and two strength training sessions each week. Sunday is still a total rest day.

It is your choice which days you work out. **Just remember you need a minimum of one day between strength training sessions to allow for adequate recovery.** Add variety to your program to keep it interesting.

It is a good idea to complete the Fitness Checks periodically. You can continue to do them at the start of each four-week cycle or you could do them every other month.

Below is a sample one-week maintenance program. Use it as a guide for your own routine.

Make photocopies of the Log form on the next page. Use these pages to record your maintenance program.

DAY 1 MONDAY	DAY 2 TUESDAY	DAY 3 WEDNESDAY	DAY 4 THURSDAY	DAY 5 FRIDAY	DAY 6 SATURDAY	DAY 7 SUNDAY
<b>Continuous Aerobic</b> 30-60 min. "JT"  <b>AbCore</b> 1 Circuit	<b>REST</b>	<b>Strength</b> 1 UB Circuit 1 LB Circuit 2 sets x 6-8 reps	<b>Continuous Aerobic</b> 30-60 min. "JT"  <b>AbCore</b> 1 Circuit	<b>Strength</b> 1 UB Circuit 1 LB Circuit 2 sets x 6-8 reps	<b>ACTIVE REST</b>	<b>REST</b>

























## Personal Training Log Week 1 - 4

Member signature \_\_\_\_\_  
 Supervisor signature \_\_\_\_\_

A PROGRAM / PROGRAMME Week/ Semaine		Day/Jour		Date	
B/AEROBIC/ AÉROBIE	L/C	T	D	T	D
C STRENGTH/ FORCE	SET/ Série 1	L/C	R	SET/ Série 2	L/C
	SET/ Série 2	L/C	R	SET/ Série 3	L/C
	SET/ Série 3	L/C	R	SET/ Série 4	L/C
	L/C	R	L/C	R	L/C
A PROGRAM / PROGRAMME Week/ Semaine		Day/Jour		Date	
B/AEROBIC/ AÉROBIE	L/C	T	D	T	D
C STRENGTH/ FORCE	SET/ Série 1	L/C	R	SET/ Série 2	L/C
	SET/ Série 2	L/C	R	SET/ Série 3	L/C
	SET/ Série 3	L/C	R	SET/ Série 4	L/C
	L/C	R	L/C	R	L/C
A PROGRAM / PROGRAMME Week/ Semaine		Day/Jour		Date	
B/AEROBIC/ AÉROBIE	L/C	T	D	T	D
C STRENGTH/ FORCE	SET/ Série 1	L/C	R	SET/ Série 2	L/C
	SET/ Série 2	L/C	R	SET/ Série 3	L/C
	SET/ Série 3	L/C	R	SET/ Série 4	L/C
	L/C	R	L/C	R	L/C
A PROGRAM / PROGRAMME Week/ Semaine		Day/Jour		Date	
B/AEROBIC/ AÉROBIE	L/C	T	D	T	D
C STRENGTH/ FORCE	SET/ Série 1	L/C	R	SET/ Série 2	L/C
	SET/ Série 2	L/C	R	SET/ Série 3	L/C
	SET/ Série 3	L/C	R	SET/ Série 4	L/C
	L/C	R	L/C	R	L/C













































