

CEC ARTICLE : RIVER AND CHANNEL USAGE (2 A-PAI CEC'S)

By C. H. Krafft

Many leisure pools now have rivers or channels that can be used for effective programming for seniors or tri-athletes/advanced participants. These water features can be of great benefit to both groups, but have some safety issues and logistical issues that have to be addressed before incorporating them into classes. We will examine some general concerns and then list specific exercises for the two different groups.

Channel versus river differences.

Rivers are usually wider than channels. Rivers can be 10 or more feet across so there is plenty of room to travel across the width or to have participants pass each other. Channels can be as small as 3 feet making it a single file class without much room for people to pass. Rivers can be deeper than channels 3.5-5 feet. Channels are usually 3.5 feet deep or less. Rivers can have sloped walls with rounded corners at the bottom. Channels usually have vertical walls and near square corners. Rivers can have lower walls than channels. In general channels are more challenging to use for class purposes than rivers.

Benefits of River/Channel Exercises-

Senior River Walking:

-Improved strength and core. Seniors can work against the current of the river or channel and experience higher degrees of overload without using equipment or speed. This can be much safer for seniors with joint limitations or arthritis since fast movements or equipment can produce pain in the joints. Improved strength for walking and gait are gained by working against the current. The core is engaged the entire time the participants are in the current. The core is worked in the ways it is most used in everyday life.

-Improved balance. The water current challenges participant's balance in a safer environment than the land/gravity training because the risk of injury from falling is much lower. The current gives them constant challenges to adapt and improve their ability to maintain balance and control in different situations.

-Improved circulation and digestion. The current of the water massage the muscles of the body and help in circulation and the elimination of retained fluids. It also massages and helps move the intestines which helps with bowel movements and constipation.

-Improved range of motion and flexibility. The current gently assists in stretching and range of motion exercises by applying massage and a gentle pull on the muscles. Warm water (84-88 F) has been shown to increase synovial fluid flow to the joints which increases their mobility.

Swimmer/Triathlete:

-Improved ability to handle currents and swimming in a pack of other swimmers. It is beneficial to be able to control breathing and when to breathe given changing conditions and chop. This training can improve open water swimming techniques.

-Improved leg strength for running and biking. Working against the current in the movements used for running and biking will improve the strength in the motion needed. The current also develops the stabilizing muscles and core more than running and biking on land. Note-both land and water training are needed. The water training supplements and adds to the land training. It does not replace it.

-Improved ability to swim in currents. This is beneficial for open water swimming.

-Improved ability to run in water. This is beneficial for open water run entries.

Safety Concerns:

Depth—

Because most rivers and channels were designed as leisure features for children they are usually at most 3.5 feet deep and the same depth throughout the river or channel. This can be a challenge for some adults who are tall or who are under 4 feet 5 inches in height who engage in river and channel classes.

Senior River Walking Concerns:

-Effective arm work can be difficult for taller individuals because the water depth is too shallow for them. They cannot perform full range of motion arm work without crouching down or being suspended on a noodle. Long strides may help to increase the range of motion with the arms without compromising posture. Depending on the current and configuration of the river or channel being suspended on a noodle can also help with keeping the arms in the water and achieving better range of motion.

-Impact can also be higher for taller individuals because more of their body is out of the water so less of their weight is reduced by the buoyancy of the water.

-Proper body mechanics can be an issue for both tall and very short adults. Short adults may be on their toes because it is too deep for them and they will lean into the water and bounce to travel. Taller individuals may lean into the water or crouch to get more of the upper body in the water.

-Stability and falling risks are higher in rivers and channels. For seniors, whose balance and proprioception is poor, the risk of falling over and not being able to come to an upright position with the feet back on the floor is higher. For shorter weaker participants they can get swept away in the current. They may need to stay near the wall with the lowest current or have a buoyancy device for support. For taller participants they have more body mass out of the water which can make them more unbalanced in the current. They may need to be near a wall for support. Buoyancy devices may make them lean over and exaggerate poor body mechanics.

Swimmer/Triathlete:

-Shorter triathlete will have trouble with depth for running in the river. River running is good training for open water beach front swim entries in triathlons and good leg strength training for the run part of the triathlon. The participant is supposed to run in as close to their land form as possible. If the water is too deep for them, they will not be able to maintain their form.

-Taller individuals may have trouble swimming in the river or channel if it is too shallow. Swimming freestyle against the current is great for training for open water pack swimming. However, it must be deep enough for the participant's arms and legs not to hit the floor of the pool while swimming.

Traction-

Rivers and channel can have very rough or very smooth floors or grates for circulation in the floor. This can cause traction issues when travelling in the river.

Senior River Walking Concerns:

-Rough floors can be very hard on bare feet. Because of the current, participants have to push off the floor harder than still shallow water in order to move against the current. Foot issues are common for many seniors. Bunions, neuromas, hammer toes, plantar fasciitis, fallen arches, loss of feeling, and loss of flexibility are just some of the problems they may have. Without shoes, they can rub their feet raw trying to walk in a rough bottom river. If the river has grates in areas in the bottom, it can be very painful to step on them without shoes which may cause them to fall over.

-Smooth floors can be very slippery with or without water shoes. Shoes can supply some additional traction, but the risk of falling over and not being able to recover is higher in a smooth floored river or channel.

Swimmer/Triathlete:

-Rough floors can be very hard on bare feet even for athletes. Because of the current, participants have to push off the floor harder than regular shallow water in order to move against the current. Without shoes they can rub their feet raw trying to run in a rough bottom river and there is still impact that can cause plantar fasciitis. If the river has grates in areas in the bottom, it can be very painful to step on them without shoes.

-Smooth floors can be very slippery with or without water shoes. Shoes can supply some additional traction, but the risk of falling over or being able to run in proper form and rhythm is higher in a smooth floored river or channel.

In general, shoes should be worn for all participants for running or walking components of river and channel workouts.

Water and air temperature-

In general, the water temperature is higher in rivers and channels (84-90 F). This can be a benefit for seniors and a concern for athletes. Cold air temperature compared to the water (especially in outside rivers and channels) can be a concern for the seniors.

Senior River Walking Concerns:

Warm Temperatures-

-The water temperature for seniors with arthritis should be 84-88 F. Many rivers and channels are at this temperature. It is also recommended that the air temperature also be 84F. If the water temperature is above 88 F, the cardio intensity of the class must be lowered to prevent overheating. If the water and air temperature are above 88 F,

the class should focus on range of movement, flexibility, and strength and have little to no cardio. All participants should have water available during class and hydrate often.

Cold temperatures-

-If the air temperature is too cold the participants will crouch down into the water to keep their shoulders warm. This will promote poor body mechanics and defeat the purpose of the class. Depending on the situation, wet suit jackets, shirts, or other clothing may help keep the upper body warmer.

-If the water temperature is below 84 F, it is too cold for arthritis and joint issues in seniors.

Swimmer/Triathlete:

Warm Temperatures-

-The water temperature for higher intensity workouts should be 84 F or less. Many rivers and channels are at or above this temperature. If the water temperature is above 84 F, the cardio intensity of the class must be lowered to prevent overheating. Prolonged swimming where most of the body is in the water is not recommended. Alternating between swimming and water running or core/strength work would be advisable to prevent overheating and dehydration. If the water and air temperature are above 88 F, it is not recommended for cardio or high intensity training. All participants should have water available during class and hydrate often.

Cold temperatures-

-Most swimmers and athletes prefer 78-82 F water for the higher intensity workouts. The risk of overheating is much lower and the ability to work at higher heart rates is much better in colder water.

Muscular Imbalances-

The channels and rivers produce a current in a certain direction, care must be taken to avoid creating muscular imbalances by working against the current with forward motions only. In order to use all of the muscle, participants must travel forward, backward, and sideways in the river.

Senior River Walking Concerns:

- Walking forward against or with the current the majority of the time will over strengthen the hip flexors, quads, calves, abs, chest, anterior deltoids, and biceps compared to their opposing muscle groups. It will also promote a lean forward gait if not constantly kept in check. Walking backward against the current will cause participants to stand more upright and strengthen glutes, hamstrings, anterior tibialis, low back, upper back, posterior deltoids, and triceps. Walking sideways will strengthen inner thigh, outer thigh, obliques, medial deltoids, lats, and the lateral ankle stabilizing muscles. It is recommended to use forward, right sideways, left sideways, and backward more equally throughout the class to promote muscular balance.

Ability to lead the class-

Some layouts for the rivers and channels are issues when trying to lead a class. Some rivers and channels weave around other water features so the instructor is not visible to the class at all times. Some open to other water features

like slides and vortexes. The instructor may need signage, a microphone, or a helper stationed at another part of the river to effectively lead the class. In all cases, it is recommended that the instructor lead from the deck. For seniors, you are watching for any safety issues or life threatening situations at all times.

Senior River Walking Concerns:

-It is very important to senior that they be able to understand and follow what you want them to do. Large exaggerated movements on deck, a microphone, and repeating what you want them to do several times is important. Repetitions should be between 8 and 16 and in a block of several moves that repeat to make it easier to follow. Making it clear which direction you want them to go (against or with the current) and whether you want them to go forward, backward or sideways is important. They are traveling in a circle and the instructor is on the outside of the circle. A convention like clockwise or counter clockwise needs to be established. Also if weaker participants need to be near the wall with the least amount of current, those passing them must allow them to stay near that wall.

-Simple but effective patterning is very important; especially, if there are areas in the river where they cannot see you for a time. Be aware of the time to travel through these blind spots and have patterns that have sequence times longer than the time to pass through the blind spot.

-Narrow channels may be an issue for stronger participants to pass slower participants. You may have to reverse directions against and with the current more often to reduce this problem.

Swimmer/Triathlete:

-This group can usually handle stations or written signs in big print to help lead the class. You may have to get in and out of the water to demonstrate what you would like them to do more than the senior group.

-The amount of time to complete exercises or tasks may vary greatly with this group. Narrow channels may eliminate certain exercises or swimming challenges if they cannot pass each other safely or effectively.

CLASS IDEAS-

Senior River Walking:

<u>Forward and Backward</u>	<u>Sideways</u>	<u>Balance</u>
Walk	Side step	Tippy Toe Walk
High Knees	Barrel run sideways	On heels walk
High Heels	Step big drag trailing leg	Swing leg front back front step (forward)
Wide Knees	Side kick out big step	Swing leg back front back step (backward)
In In Out Out Jog	Low Shuffle	Jog 3 Hold
One leg lead lunging	Squat steps	Sideways leg swing out in out step
Side stepping wall to wall	Grapevine	Sideways pendulum rock 3 hold
One leg kick front repeated forward	Side leap	1 leg up knee kick curl kick step (forward)
One leg kick back repeated backward	Pendulum	1 leg curl up stomp curl step (backward)

Swimmer/Triathlete:

Swimming Exercises

Leashed to Wall Swim in current Underwater Swim Underwater with Kickboard

Alternate breathing 3, 5, 7 strokes
Dive and swim

Kick only
Swim around another person

Pull only
Sprint and Recover

Water Running Moves

Run with tubes, noodles, or weights on shoulders

Forward and Backward

Run

High Knees

High Heels

Wide Knees

In In Out Out Run

Gallop one leg

Leap one leg

One leg kick repeated forward

One leg kick repeated backward

Sideways

Sideways run

Barrel run side

Leap cross behind

Leap cross over

Grapevine run

Side Leaps

One leg Jack

Jumps F/B

Bunny Hops

Broad Jump

Frog Jump

Tuck Jump

Run 3 Jump

Right Leap Left Leap Both Jump

Moguls

One leg moguls

Moguls tuck

CEC Article 1, 2015 Questions (2 CEC's) - C. H. Krafft

Submit answers with \$15

payable to A-PAI, 547 WCR 18, Longmont, CO 80504.

Passing score is 80%. Checks

1. List 3 differences between rivers and channels.

2. T or F River classes are for seniors only.

3. List 4 advantages for senior of river classes.

4. List 4 advantages for athletes of river classes.

5. T or F As long as the water temperature is over 84 F, the river is good for all kinds of classes.

6. T or F Athletes don't need water shoes for river workouts.

7. T or F The instructor can teach either in the water or on deck for these kinds of classes.

8. T or F In order to improve walking, senior should spend most of the class going forward against the current.
9. T or F You never get in the water with the athletes, you need to watch for life threatening situations at all times.
10. When is the water depth an issue for tall participants and why?

11. When is the water depth an issue for short participants and why?

12. T or F Athletes can work out as hard as they want in river classes.
13. T or F Balance is an issue for athletes and jog 3 hold is an exercise for them.
14. T or F Signs and stations can be used for seniors so the instructor can get in the water to monitor form.
15. T or F Passing other participants should always be done on the right to allow faster participants to get by.
16. List 3 sideways senior moves and 3 sideways athlete moves.