

ADAPTATIONS FOR PARA SWIMMERS

This section of the Swimming Fundamentals course is designed to give you an overview of how you can modify swimming skills to best include swimmers with a disability. The following information on teaching swimmers with a disability is presented:

- ✓ Information for those who are visually impaired or blind
- ✓ Information for those with a loco-motor disability.

This grouping is based on what you need to know to teach swimmers with a disability, and material is presented in two forms:

- ✓ Material for those who are visually impaired or blind is based on how you can modify the *environment*.
- ✓ Material for those with a loco-motor disability is structured in terms of how to modify *technique*.

Here are a few things to do with ANY swimmer with a disability:

- Talk to the swimmer's parents or caregivers to find out more about the swimmer and his or her disability. This is especially important if you don't know a lot about the swimmer's disability
- Talk to the swimmer about his or her goals, abilities, and skills.

SWIMMERS WHO ARE VISUALLY IMPAIRED OR BLIND

Here are some tips on teaching swimmers who are visually impaired or blind:

- ✓ Find out what and where they can see.
- ✓ Ask the swimmer where you should position yourself so he or she can see you as well as possible. If appropriate, confirm this information with parents or caregivers.
- ✓ Find out if there are any medical conditions that could prevent the swimmer from diving or doing flip turns.

GUIDING

Guiding is the process of helping a person who is visually impaired get around.

Not every person needs help, so ask before you start to help. If assistance is required, offer the swimmer your elbow or shoulder. After *you* make the initial physical contact, the swimmer can decide whether to hold your elbow or shoulder.

ORIENTING

When you are guiding or a swimmer is new to your location (pool or beach, for instance), it's important to explain the surroundings and describe and hazardous or risky areas.

Remember that you are their eyes, and you CAN help them learn the layout of the facility or pool.

SWIMMERS WITH A LOCOMOTOR DISABILITY

Information on swimmers with a loco-motor disability is presented in chart form, with one chart for each stroke/skill:

- ✓ Backstroke
- ✓ Breaststroke
- ✓ Butterfly
- ✓ Front Crawl
- ✓ Front Crawl
- ✓ Starts
- ✓ Turns
- ✓ Transitions

For each stroke/skill, the table suggests technique modifications you can use for a swimmer with...

- ✓ Single-Arm Amputation
- ✓ Double-Arm Amputation
- ✓ Single-Leg Amputation
- ✓ Double-Leg Amputation
- ✓ Cerebral Palsy, Hemiplegic
- ✓ Cerebral Palsy, Diplegic
- ✓ Cerebral Palsy, Quadriplegic
- ✓ Spinal-Cord Injury, Paraplegic
- ✓ Spinal-Cord Injury, Quadriplegic

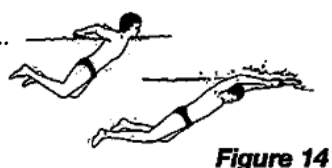
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BUTTERFLY

Key Element	Swimmer with...				Swimmer with...				
	Single-arm Amputation	Double-arm Amputation	Single-leg Amputation	Double-leg Amputation	Cerebral Palsy, Hemiplegic	Cerebral Palsy, Diplegic	Cerebral Palsy, Quadriplegic	Spinal-Cord Injury, Paraplegic	Spinal Cord Injury, Quadriplegic
Body Position	Shoulder level with water surface		No modification needed	Keeps hips open, body close to surface	Shoulders level with water surface		Body is flatter in water, head is down on arm extension		Body is flatter in water
Leg Action	No modification needed		Kick on horizontal plane, foot does not need to be turned out	No modification needed	Used symmetric kick, on horizontal plane	With severe diplegia, hold legs in extended position	Kick must be symmetric and on horizontal plane	Leg drag or kick is symmetric	Legs drag
Arm Action	Both arms perform full-stroke breaststroke	Shoulders stay level with water	Arm pull is slightly wider	Slightly larger pull	With severe hemiplegia, use one arm	Use slightly wider pull	Symmetric arm action	Use slightly wider pull	Use wider sculling action
Breathing	No modification needed	Breathe when feet are at highest point	No modification needed		No modification needed	Use multiple strokes between breaths			Use multiple strokes between breaths, can breathe to side, shoulders remain level
Timing	No modification needed		Faster arm turnover		No modification needed	Faster arm turnover	No modification needed	Faster arm turnover	

When there's muscular impairment...

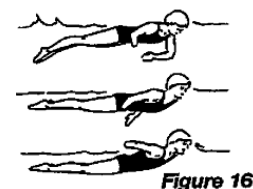
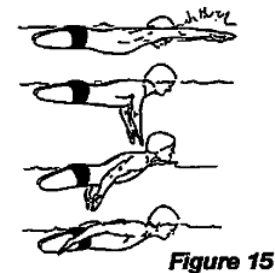


- ✓ Exaggerate the head movement. The head helps dolphin movement (Figure 14).
- ✓ Breathing and head re-entry need to happen earlier. If there's a high level of paralysis, let the hands enter water, and use the weight of the upper body to let the body follow through before starting the arm action.

NOTE: Spinal fusions or rods may make butterfly impossible.

When there's a loss of limb...

- ✓ Arm – breathe to the side of the loss (Figure 15).
- ✓ Leg – changing the level of the head helps develop good body position (Figure 16)



BACKSTROKE

Key Element	Swimmer with...				Cerebral Palsy, Hemiplegic	Cerebral Palsy, Diplegic	Cerebral Palsy, Quadriplegic	Spinal-Cord Injury, Paraplegic	Spinal Cord Injury, Quadriplegic
	Single-arm Amputation	Double-arm Amputation	Single-leg Amputation	Double-leg Amputation					
Body Position	Emphasize balanced roll		Hold head farther back in water	Hold head farther back in water, hips high	Balanced body roll			Hold head slightly higher in water	Head held farther back in water
Leg Action	No modification needed		Kick up, then up and across	Do shallow kick for balance	Balance kick as much as possible	Use kick for balance in stroke		Hold head slightly higher in water	Alternate with body roll for balance
Arm Action	Both arms perform full-stroke rotation	Shoulders roll from side to side	No modification needed		With severe hemiplegia, use one arm	No modification needed	Rhythmic and symmetric arm action	No modification needed	No modification needed; with high level quadriplegia, do double-arm back
Breathing	No modification needed				No modification needed				
Timing	No modification needed		Kick up on hand entry, up and across on hand finish	Leg kicks up on hand entry, up on hand finish	No modification needed		With severe quadriplegia, use double arm back stroke	No modification needed	With high level quadriplegia, do double-arm back

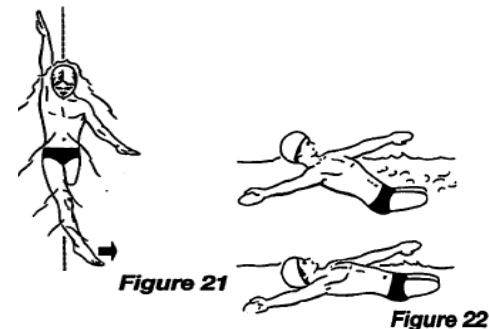
When there's muscular impairment...

- ✓ Kick if leg movement is limited, more for stability than for propulsion.
- ✓ Emphasize finishing the arm action past the hip (Figure 20)
- ✓ Do single-arm and double-arm backstroke. Double-arm backstroke is more stable if the disability is more severe.



When there's a loss of limb...

- ✓ Develop proper head position – it helps achieve good body position in the water.
- ✓ Leg – if one leg has been lost, use a normal kick pattern. At the end of the kick, do a slight crossover for stability (Figure 21)
- ✓ Legs – to improve body position, alter the position of the head, lift the hips, and use flutter kick for balance. See Figure 22.



BREASTSTROKE

Key Element	Swimmer with...				Swimmer with...				
	Single-arm Amputation	Double-arm Amputation	Single-leg Amputation	Double-leg Amputation	Cerebral Palsy, Hemiplegic	Cerebral Palsy, Diplegic	Cerebral Palsy, Quadriplegic	Spinal-Cord Injury, Paraplegic	Spinal Cord Injury, Quadriplegic
Body Position	Shoulder level with water surface		No modification needed	Keeps hips open, body close to surface	Shoulders level with water surface			Body is flatter in water, head is down on arm extension	Body is flatter in water
Leg Action	No modification needed		Kick on horizontal plane, foot does not need to be turned out	No modification needed	Used symmetric kick, on horizontal plane	With severe diplegia, hold legs in extended position	Kick must be symmetric and on horizontal plane	Leg drag or kick is symmetric	Legs drag
Arm Action	Both arms perform full-stroke breaststroke	Shoulders stay level with water	Arm pull is slightly wider	Slightly larger pull	With severe hemiplegic, use one arm	Use slightly wider pull	Symmetric arm action	Use slightly wider pull	Use wider sculling action
Breathing	No modification needed	Breath when feet are at highest point	No modification needed		No modification needed	Use multiple strokes between breaths			Use multiple strokes between breaths, can breathe to side, shoulders remain level
Timing	No modification needed		Faster arm turnover		No modification needed	Faster arm turnover	No modification needed	Faster arm turnover	

When there's muscular impairment...

- ✓ Lower-limb paralysis – if there is a lack of lower-limb control, try doing more than one arm stroke per breath (Figure 20). Some part of the head still needs to come out of the water, but it isn't necessary to lift the head and take a breath.
- ✓ Some movements – experiment with doing a frog-like action.

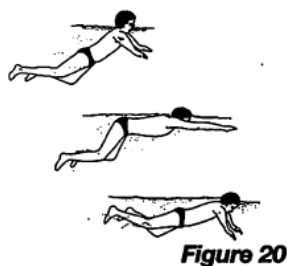


Figure 20

NOTE: Persons with limited hip and back mobility may be unable to move up and down a lot. Their breaststroke is therefore flatter and more traditional.

When there's a loss of limb...

- ✓ Leg – if one leg has been lost, turn the foot out, and do a frog-like kick (Figure 21)
- ✓ Leg – if both legs have been lost, change the head position to achieve proper body position
- ✓ Arm – focus on keeping the shoulders level (Figure 22)



Figure 21

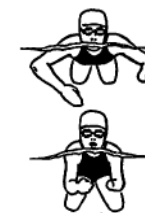


Figure 22

FREESTYLE

Key Element	Swimmer with...				Swimmer with...				
	Single-arm Amputation	Double-arm Amputation	Single-leg Amputation	Double-leg Amputation	Cerebral Palsy, Hemiplegic	Cerebral Palsy, Diplegic	Cerebral Palsy, Quadriplegic	Spinal-Cord Injury, Paraplegic	Spinal Cord Injury, Quadriplegic
Body Position	Emphasize balanced roll		No modification needed	Hold head higher in water, hips high	Balanced body roll			Hold head slightly lower in water	Head held lower in water
Leg Action	No modification needed		Kick up, then across and down	Do shallow kick for balance	Balance kick as much as possible	Use kick for balance in stroke		Alternate with body roll for balance	
Arm Action	Both arms perform full-stroke rotation	Shoulders roll from side to side	No modification needed		With severe hemiplegia, use one arm	No modification needed	Rhythmic and symmetric arm action	No modification needed	No modification needed; with high level quadriplegia, do double-arm backstroke
Breathing	No modification needed				No modification needed				
Timing	No modification needed		Kick down on hand entry, across and down on hand finish	Leg kicks down on hand entry, down on hand finish	No modification needed		With severe quadriplegia, use double arm back stroke	No modification needed	With high level quadriplegia, do double-arm backstroke

When there's muscular impairment

- ✓ Kick for stability, not necessarily for propulsion, if leg movement is limited
- ✓ Finish the hand to the hip when no movement is available – it encourages the hips to stay at the surface (Figure 15).

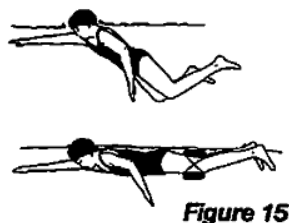


Figure 15



Figure 16

When there's a loss of limb...

- ✓ Arm – start by breathing to the side of the loss, and then progress to bilateral breathing. Arm – if necessary, pull the complete arm slightly past the midline of the body to keep moving in a straight line (Figure 16)
- Leg – whenever possible, use a normal kick pattern. At the end of the kick, do a slight crossover for stability.



Figure 17

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START

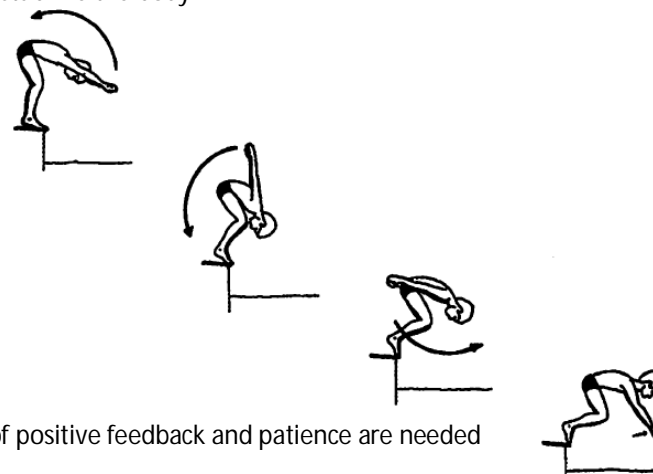
Key Element	Swimmer with...				Swimmer with...				
	Single-arm Amputation	Double-arm Amputation	Single-leg Amputation	Double-leg Amputation	Cerebral Palsy, Hemiplegic	Cerebral Palsy, Diplegic	Cerebral Palsy, Quadriplegic	Spinal-Cord Injury, Paraplegic	Spinal Cord Injury, Quadriplegic
Start Protocol	No modification needed		Start at front of block	Start from front of block, legs staggered	Start at front of blocks	Start at front of block, or in water	Start from seated position or in water	Started from seated position or standing at front of block	Start from seated position or in water
Dive	Hold arms in streamlined position	Head enters first	No modification needed	Dive	With severe hemiplegia, hold limb close to body	Drive with arm action, pulling body forward	No modification needed	Throw arm and head forward to launch body from block	Use head and arm action to launch body from block

When there's muscular impairment of the leg...

- ✓ Hold onto a supportive surface (a ladder or person, for example). Use both hands to stabilize the body.
- ✓ Dive from a sitting position, using the arms and torso to propel the body forward.

When there's a loss of limb...

- ✓ Leg – use the hands as a balance or support
- ✓ Leg – stand on the stump to start, and use a towel or pad on the diving surface to protect against abrasions



Where there is a visual impairment...

- ✓ Take extra time to adjust to diving forward into the water – it can be scary, and lots of positive feedback and patience are needed

NOTE: Some persons with a disability may not be able to do all the entry skills listed in this document.

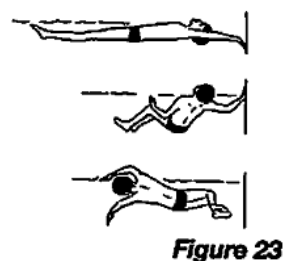
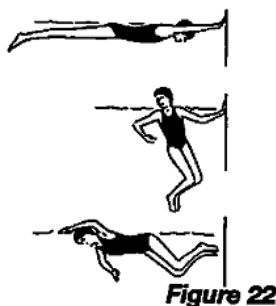


TURNS

Key Element	Swimmer with...				Swimmer with...					
	Single-arm Amputation	Double-arm Amputation	Single-leg Amputation	Double-leg Amputation	Cerebral Palsy, Hemiplegic	Cerebral Palsy, Diplegic	Cerebral Palsy, Quadriplegic	Spinal-Cord Injury, Paraplegic	Spinal Cord Injury, Quadriplegic	
Flip Turn	No modification needed				Use hips for push off wall	Might not be possible; if not, use open turn		Might not be possible; if not, use spin turn	Might not be possible; if not, use open turn	
Open Turn	Touch with both arms outstretched	Touch with shoulder	No modification needed	With severe hemiplegia, touch with one hand		In breaststroke and butterfly, one asymmetric pull is allowed				
Spin Turn	No modification is needed			Might no be possible; if not, use open turn		Use kick for balance	Might not be possible; if not, use open turn			

Where there's an amputation...

- ✓ Focus on touching the wall safely if the arm does not extend beyond the head. Touching with the shoulder is strongly recommended.



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TRANSITIONS

Key Element	Swimmer with				Swimmer with...				
	Single-arm Amputation	Double-arm Amputation	Single-leg Amputation	Double-leg Amputation	Cerebral Palsy, Hemiplegic	Cerebral Palsy, Diplegic	Cerebral Palsy, Quadriplegic	Spinal-Cord Injury, Paraplegic	Spinal Cord Injury, Quadriplegic
Streamlined Position	No modification needed				With severe hemiplegia, hold limb close to body	No modification needed		No streamline push off possible	
Kick-Pull Or Pull-Kick					With severe hemiplegia, use single-arm action	Use arm action only	No modification needed	With severe hemiplegia, use single-arm action	Use arm action only

