

Supplemental File 1

Identification of the five components of the observational water competence assessment instrument used in project one (adapted from Langendorfer & Bruya, 1995)

Water Entry Component Sequence (WE)

1. No voluntary entry demonstrated
2. Caregiver- or flotation-supported feet-first entry
3. *Unassisted voluntary feet-first entry*

Water Exit Component Sequence (WX)

1. No voluntary exit demonstrated
2. Caregiver-supported exit to pool side
3. Flotation-supported or caregiver-assisted exit to pool side
4. *Independent exit to pool side*
5. *Independent exit to pool side and exit from pool (over side, up stairs or ramp or ladder)*

Back (Supine) Buoyancy/Flotation Component Sequence (BF)

1. No back flotation demonstrated
2. Back flotation with caregiver/instructor support
3. Back flotation with instructional flotation device support
4. Momentary (1-3 sec.) voluntary back flotation
5. *Independent (>3 sec.) voluntary back flotation*

Breath Control Component Sequence (BC)

1. Reflexive breath holding when face is voluntarily submerged
2. Allowing water voluntarily in and/or around mouth, resulting in shipping or spouting
3. Voluntary partial facial submersion (mouth and/or nose)
4. Voluntary full head submersion
5. *Repeated voluntary submersion/breath-holding in water*
6. *Extended voluntary breath holding and/or repeated rhythmic breathing with water safety skills*

Change in Body Orientation (turning around while vertical) Component Sequence (CBO)

1. No change in body orientation demonstrated
2. Caregiver/instructor-supported body orientation change (turning around)
3. Body orientation change (turning around) while supported by flotation device
4. *Independent voluntary body orientation change (turning around)*

Notes: *Italicized developmental levels represent “unsupported (or independent) water competency” for that component*

Supplemental File 2

Identification of the nine components of the observational water competence assessment instrument used in project two (adapted from Langendorfer & Bruya, 1995)

Water Entry Component Sequence (WE)

1. No voluntary entry
2. Adult- or flotation-supported feet-first entry
3. *Unassisted voluntary feet-first entry*

Water Exit Component Sequence (WX)

1. Caregiver-supported exit to pool side or position of safety
2. Flotation-supported or caregiver-assisted exit to pool side or position of safety
3. Independent exit to pool side or position of safety
4. *Independent exit to position of safety and exit from pool (over side, up the stairs or ramp or ladder)*

Voluntary Breath Control Component Sequence (BC)

1. No voluntary submersion attempted
2. Voluntary partial submersion of face (i.e., mouth and/or nose)
3. Voluntary full face and/or head submersion
4. Repeated voluntary submersions with momentary breath-holding
5. *Extended (i.e., > 3 sec.) voluntary breath holding and/or repeated rhythmic breathing with skill such as entry or flotation*

Back (Supine) Buoyancy/Flotation Component Sequence (BF)

1. Back flotation with adult support or using flotation device support
2. Momentary (1-5 sec.) unsupported voluntary back flotation
3. *Extended (>5 sec.) unsupported voluntary back flotation*

Front (Prone) Buoyancy/Flotation Component Sequence (FF)

1. Front flotation with adult support or with flotation device support
2. Momentary (1-3 sec.) voluntary front flotation
3. *Extended (> 3 sec) voluntary front flotation*

Change in Body Orientation (turning around while vertical) Component Sequence (CBO)

1. Adult-supported or standing-supported change in body orientation (turning around) while standing in water (i.e., touching bottom or side)
2. Flotation device-supported voluntary change in body orientation (turning around)
3. *Unsupported voluntary change in body orientation (turning around) while in water*

Change in Body Position (rolling over and/or vertical to horizontal) Component Sequence (CBP)

1. Adult-supported body position change (rolling over & vertical to horizontal)
2. Flotation device-supported body position change (rolling over & vertical to horizontal)
3. *Unsupported voluntary change in body position (rolling over & vertical to horizontal)*

Swimming on Front Component Sequence (SF)

1. Adult-supported front gliding or paddling
2. Flotation device-supported front gliding or paddling or stroking
3. Unsupported voluntary front gliding or paddling 2-3 body lengths
4. *Unsupported voluntary front paddling or stroking for >3 body lengths*
5. *Extended unsupported front paddling or stroking for 25 yards*

Swimming on Back Component Sequence (SB)

1. Adult-supported back gliding or paddling
2. Flotation device-supported back gliding or paddling or stroking
3. Unsupported voluntary back gliding/paddling 3-4 body lengths
4. *Unsupported back paddling or stroking for >4 body lengths*
5. *Extended unsupported back paddling or stroking for 25 yards*

Note: *Italicized developmental levels represent “unsupported (or independent) water competency” for that component*