

Risk Assessment Safety Plan

Project information:

Name of project		Date of submission
Assistive device for paraplegic scuba divers		02-26-19
Team Member	Phone Number	e-mail
Kevin Nicholas	850-544-4747	kcn10@my.fsu.edu
Ebony Luster	901-800-7678	Ebony1.luster@famu.edu
Dominic Balistreri	754-779-1142	djb12@my.fsu.edu
Kylie Halbert	727-244-8705	keh15@my.fsu.edu
Faculty mentor	Phone Number	e-mail
Dr. Shayne McConomy	850-410-6624	smcconomy@eng.famu.fsu.edu

I. Project description:

This project is designed to allow paraplegic people to have more independence while in the water. To accomplish the greater independence, a paraplegic person needs to be able to control the location of their legs, and their body's orientation in the water. The device made for the project aids a paraplegic person in controlling the location of their legs by securing their legs together in a wetsuit. The wetsuit has added zippers to make getting in and out of a wetsuit easier, and the wetsuit serves as a mounting location for a track. Quick release buckles will attach the track to the wetsuit. The float can be moved up and down the track with a handle that the diver operates with their hands. The float can be moved from the diver's waist to the ankles of the diver, which will aid the diver in controlling their body's orientation.

II. Describe the steps for your project:

The team will first need to order parts and then start fabricating the device. During the fabrication process, the team will utilize drills, various types saws, a router, and hand tools. Throughout different stages of the prototype build the team will test how the device is functioning in a pool.

While the necessary tools, previously listed, are being used to fabricate the prototype there is a risk of users: cutting themselves, getting debris in eyes, pinching skin, burning themselves and various other injuries. During testing the device's functions in a pool possible risks the users could encounter include: slipping, falling, hypothermia, and even drowning.

IV. Perform online research to identify any accidents that have occurred using your materials, equipment or process. State how you could avoid having this hazardous situation arise in your project.

While operating various types of saws, routers, and hand tools, users have accidentally cut themselves, burned their skin, pierced their skin with screws and nails, and experienced eye irritation from flying debris. They have also gotten their hair or clothes tangled in the moving parts of the tools. To avoid these situations, all team members will abstain from wearing loose clothing, tie hair back, keep work area clear of unneeded materials, wear safety glasses, maintain proper distance from moving parts, wear closed toe shoes and wear proper protection when working with hot objects. Members will also ensure that cutting tools have cutting guards in place. Parts will not be inserted into or removed from drills, routers, and saws until the machines have come to a complete stop. While performing activities in the vicinity of pool areas, people have broken their necks, broken bones, lost teeth from running, flipping into the pool, and rough playing. To avoid these situations, all team members will refrain running, and rough play. Team members will enter and exit the pool in a forward motion using the hand rails. Team members will not flip, jump, or dive into the pool. Swimmers and divers have also experienced hypothermia from residing in the water too long. If team members start to feel cold in the water, they will exit the pool immediately to avoid hypothermia. Additional injuries have been caused due to people tripping on equipment around the pool area. To avoid this, team members will attach device pool side to limit risk of tripping and falling. Team members will only enter a pool if a lifeguard is on duty.

V. For each identified hazard or "what if" situation noted above, describe one or more measures that will be taken to mitigate the hazard. (See examples of engineering controls, administrative controls, special work practices and PPE).

While performing any task associated with risk all team members will solely stay focus on the task at hand. When drilling, and sawing all team members will abstain from wearing loose clothing, tie hair back, keep work area clear of unneeded materials,

wear safety glasses, maintain proper distance from moving parts, wear closed toe shoes, and wear proper protection when working with hot objects. Members will also ensure that cutting tools have cutting guards in place. Parts will not be inserted into or removed from drills, sewing machines, and saws until the machines have come to a complete stop. While testing the product at the pool team members will refrain running, and rough play. Team members will enter and exit the pool in a forward motion using the hand rails. Team members will not flip, jump, or dive into the pool. If team members start to feel cold in the water, they will exit the pool immediately to avoid hypothermia. Team members will attach device pool side to limit risk of tripping and falling. Team members will only enter a pool if a lifeguard is on duty.

VI. Rewrite the project steps to include all safety measures taken for each step or combination of steps. Be specific (don't just state "be careful").

The team is fabricating the device. During the fabrication process, the team will utilize drills, a router, various types saws, and hand tools. While performing any task associated with risks, all team members will solely stay focused on the task at hand. When drilling, routing, and sawing, all team members will abstain from wearing loose clothing, tie hair back, keep work area clear of unneeded materials, wear safety glasses, maintain proper distance from moving parts, wear closed-toed shoes, and wear proper protection when working with hot objects. Members will also ensure that cutting or tools have cutting guards in place. Parts will not be inserted into removed from drills, routers, saws until the machine have come to a complete stop. Throughout different stages of the prototype build, the team will test how the device is functioning in the pool. While testing the product at the pool, team members will refrain from running and rough play. Team members will enter and exit the pool in a forward motion using the hand rails. Team members will not flip, jump, or dive into the pool. If team members start to feel cold in the water, they will exit the pool immediately to avoid hypothermia. Team members will attach the device pool side to limit risk of tripping and falling. Team members will only enter a pool if a lifeguard is on duty. The device will also only be operated by certified scuba divers on our team.

VIII. List emergency response contact information:

- Call 911 for injuries, fires or other emergency situations
- Call your department representative to report a facility concern

Name	Phone Number	Faculty or other COE emergency contact	Phone Number
Dr. Hollis	850-410-6319		

IX. Safety review signatures

- Faculty Review update (required for project changes and as specified by faculty mentor)
- Updated safety reviews should occur for the following reasons:
 1. Faculty requires second review by this date:
 2. Faculty requires discussion and possibly a new safety review BEFORE proceeding with step(s)
 3. An accident or unexpected event has occurred (these must be reported to the faculty, who will decide if a new safety review should be performed.
 4. Changes have been made to the project.

Team Member	Date	Faculty mentor	Date
Kevin Nicholas	02-26-19	Shayne McConomy	02-26-19
Dominic Balistreri	02-26-19	Michael DeVine	02-26-19
Ebony Luster	02-26-19	Shayne McConomy	02-26-19
Kylie Halbert	02-26-19	Shayne McConomy	02-26-19

Report all accidents and near misses to faculty mentor.