

Risk Assessment and Safety Management

A model by Rick Curtis, Princeton University Outdoor Action and Outdoor Education

Risk Assessment: Acknowledgement of Hazard Factors that inherently add to the potential Risk

Safety Management: Safety Factors that can mitigate, mediate, or reduce Risk by adding Safety

Hazard Factors

Equipment	Environment	People
-GEAR -Omissions	-WEATHER: Cold, Heat, Sun,	-Physical Fitness: lack of strength,
-tarp for shelter	-rain, snow, fog	-endurance, flexibility, joint issues
-stove, potset, utensils	-altitude, latitude	-medical conditions: heart, blood
-rope	-high water, low water	pressure, pacemaker, diabetes,
-pin kit, throw bags,	-strainers, downed trees	anaphylactic allergies, obesity
-emergency signals	-avalanche, landslide,	-emotional state: fear, anxiety,
Communications	-steep terrain	depression, irritability, homesick
-tools: knife, axe, hatchet	-rough terrain: boulders,	anti-social, loneliness, attitude,
Saw, water treatment	roots, mud, flood, bog	-communications or lack thereof
-first aid kit inadequate	INSECTS: black flies, ticks,	-rushing, in a hurry, away from group
-no map, compass, GPS	mosquitoes, wasps, bees	-withdrawal from group (physical or social)
GEAR USE	spiders, hornets	-inattentive
-poor knowledge of knots	ANIMALS: poisonous	-altitude sickness
-unable to operate stove	snakes/lizards/frogs/scorpions	-hypothermia, hyperthermia,
-unsafe use of knife/axe/saw	-bears, cougars, wolves, coyotes	-low blood sugar, hunger, exhaustion
-unable to secure tarp,	-rabid foxes/skunks/raccoons	-dehydration
-unable to use pin kit to		-weak, poor, inappropriate or lack of
recover people or boat/raft		leadership, no confidence in leader,
-lifejacket, harness, helmet		-emotionally unable to cope with adverse
not available, not worn, not secured		conditions or critical incidents
-tent failure: fly, zippers, shock cord,		

poles, nylon, screening, in severe weather

Balancing the Hazards ☒ minimize potential Risks

Safety Factors

Equipment	Environment	People
GEAR: Haves	-prepared for expected weather	-knowledgeable and skilled from training
-First Aid kit adequate	-dressed properly: layers, rain gear,	and practice in preparation for activity
for activity: wound dressing,	sun hat, sunblock, sunglasses, lip balm	-good judgement for acting safely
-infection prevention	-bug clothing,	-good physical fitness for activity
-splints, slings, OTC meds	-bug repellent	-well fed, well hydrated, well rested
-burns, pain management	-clothing coverage	-emotionally resilient: confident in self,
-tarp, ropes, bear vault/bag	-evacuation accessibility	group, leadership
-pin kit	-ability to evacuate casualty	-positive attitude, mindset, team player
-functional stove, lantern, filter	-communications reception	-mutually supportive, respectful, cooperative
with field maintenance kits	-terrain: good condition, flat, few	-procedures known and understood,
	obstructions	-effective, appropriate, trusted leadership

GEAR USE

- able to use stove, lantern,
- axe, saw, knives, safely
- able to set up and pack up
- tents properly,
- knows how to care for ropes,
- harnesses, helmets
- gear protected from weather