



SUBJECT: TTC Self Belay Part 2

RISK ASSESSMENT REF: TTC SB P2 02/2020

WRITTEN BY: Operations Team and Head of Health, Safety and Wellbeing

Risk Matrix								
Risk rating guidance	Likelihood (L)	5	5	10	15	20	25	Likelihood (L) x Severity (S) = Risk Rating (RR).
		4	4	8	12	16	20	
		3	3	6	9	12	15	
		2	2	4	6	8	10	
		1	1	2	3	4	5	
				1	2	3	4	
		Severity (S)						
Acceptability of risk guidance	<b>High-risk: 15 – 25</b>		High-risk activities should cease immediately. Further effective control measures to mitigate risks must be introduced.					
	<b>Medium-risk: 8 – 12</b>		Medium-risks are an acceptable level based on the reduced likelihood after sufficient control measures are implemented					
	<b>Low-risk: 1-6</b>		Low-risks are largely acceptable. Where it is reasonable to do so, efforts should be made to reduce risks further.					
Guidance. When completing a risk assessment, you should:	<ol style="list-style-type: none"> <li>Identify the persons at risk and the significant hazards.</li> <li>Calculate an initial RR for the activity.</li> <li>Identify risk control measures that reduce the risks to an acceptable level.</li> <li>Calculate a revised RR - you should consider how much safer the task will be if the control measures are followed. Here, you should consider changing both the likelihood (L) and the severity (S) ratings.</li> </ol>							
<b>Note.</b> Ideally, you should look to reduce the risks so that the task can be classified as "low-risk".								

Likelihood	Definition	Points rating
<b>Inevitable</b>	If the work continues as it is, there is almost 100% certainty that an accident will happen, for examples: A broken stair or broken rung on a ladder, Bare, exposed electrical conductors, Unstable stacks of heavy boxes	<b>5</b>
<b>Highly likely</b>	Will happen more often than not. Additional factors could precipitate an incident but it is still likely to happen without this additional factor.	<b>4</b>
<b>Possible</b>	The accident may occur if additional factors precipitate it, but it is unlikely to happen without them.	<b>3</b>
<b>Unlikely</b>	This incident or illness might occur but the probability is low and the risk minimal.	<b>2</b>
<b>Remote possibility</b>	There is really no risk present. Only under freak conditions could there be any possibility of an accident or illness. All reasonable precautions have been taken - This should be the normal state of the workplace.	<b>1</b>

Severity	Definition	Points rating
<b>Very high</b>	Causing multiple deaths and widespread destruction eg. fire, course/building collapse.	<b>5</b>
<b>High</b>	Causing death, serious injury or permanent disability to an individual.	<b>4</b>
<b>Moderate</b>	Temporary disability causing injury (to member of the public, contractor or employees) or disease capable of keeping an employee off work for seven days or more and reportable under RIDDOR (Reporting of Injuries, Diseases and Dangerous Occurrences Regulations 1995).	<b>3</b>
<b>Slight</b>	Minor injury (to member of the public, contractor or employee), which would allow the individual to continue work after first aid treatment on site or at a local surgery. The duration of the stoppage or treatment is such that the normal flow of work is not seriously interrupted.	<b>2</b>
<b>Nil</b>	Very minor injury, bruise, graze, no risk of disease.	<b>1</b>

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No.	HAZARD	L	S	RR	WHO MIGHT BE HARMED	CONTROL MEASURES	FURTHER CONTROL MEASURES: reviewed annually to formulate Risk Reduction Plan	L	S	RR
	Falling objects <ul style="list-style-type: none"> <li>from the course onto the course</li> </ul>	3	3	9	Course users Employees Contractors Public	<p><b>Retainers and Lanyards</b></p> <ul style="list-style-type: none"> <li>Course users must attach or secure all loose items (such as cameras).</li> <li>When instructors are carrying out maintenance tasks at height, reasonable adjustments should be made.</li> </ul> <p><b>Trees</b></p> <p>All course trees visually checked during opening the course, for loose and broken branches. Deadwood should be removed.</p>		2	3	6
	Impact including:  Course users swinging into something solid <ul style="list-style-type: none"> <li>On the course</li> <li>At the landing (e.g. resulting in lower leg injury)</li> </ul> <p>Being struck by parts of the course (for example the Tarzan return system)</p> <p>Collision</p> <ul style="list-style-type: none"> <li>On Zip wires</li> <li>At Zip landing</li> </ul>	3	3	9	Course users Employees Contractors Public	<p><b>Course design</b></p> <ul style="list-style-type: none"> <li>Design of the course must take into consideration the possibility of impact problems. This is checked by the external inspection body during the inaugural inspection. Materials are finished to provide smooth, surfaces. Zip wires and landing areas are designed at an angle and sag to arrive at an optimum landing speed or appropriate braking mechanisms are installed.</li> <li>WRGs and swages are covered in protective material where they may cause harm.</li> <li>Landing sites are constructed to provide a soft and moveable surface of woodchip or wood peel.</li> <li>Protective padding is provided where there is the possibility of collision. The zip braking spring is</li> </ul>		2	3	6

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					<p>covered in rubber or foam protection.</p> <ul style="list-style-type: none"> <li>• Where required zip landing sites are fenced off to stop members of the public and children wandering into them.</li> <li>• Warning signs are in place to warn members of the public of the risk of collision.</li> <li>• Tarzan exit frames are used to ensure course users cannot collide with other course users on nearby elements and to control the Tarzan return system.</li> <li>• The speed of the Tarzan return system is monitored and further controlled by changing the mass of the weight, ensuring the return mechanism cannot hit course participants.</li> </ul> <p style="text-align: center;"><b>Operating Procedures</b></p> <ul style="list-style-type: none"> <li>• Landing areas are to be prepared (raked or dug) on a regular basis to ensure they comply with guidelines.</li> <li>• Only 1 course participant is allowed on a crossing or on the zip wire at any one time.</li> </ul> <p style="text-align: center;"><b>Provision of Information</b></p> <ul style="list-style-type: none"> <li>• Provision of suitable and sufficient information and training to course participants to ensure they are safe when crossing obstacles and descending zip wires. Written Safety Rules and Advice which must be read by all course participants, Instructors Safety Brief given to all course participants.</li> <li>• Safety signage at the start of each zip wire.</li> </ul>			
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						<ul style="list-style-type: none"> <li>Course participants recommended to wear appropriate footwear, with soles with good grip, closed toe and heel. Sandals not allowed. Customer advice. Zip speeds are taken and recorded periodically to identify any changes in speed of landing.</li> </ul>			
Entanglement in ropes nets, cables or chains and body parts trapped in moving parts of the course	2	3	6	Course users Employees Contractors	<ul style="list-style-type: none"> <li>Course designed to minimise the risk of entanglement or entrapment</li> </ul> <p><b>Operating Procedures</b></p> <ul style="list-style-type: none"> <li>Hair tied back, suitable clothing</li> <li>Effective supervision</li> <li>Regular patrolling</li> </ul> <p><b>Information and Training</b></p> <ul style="list-style-type: none"> <li>Tarzan signage</li> <li>Specific Tarzan training in safety brief</li> </ul>		1	3	3
Unsuitable PPE: Incorrect assessment of loadings including premature failing or malfunctioning of PPE	3	3	9	Course users Employees Contractors	See Part 1, "PPE Provision and Checks"		2	3	6
Slips and trips and uneven ground	2	3	6	Course users Employees Contractors Public	<ul style="list-style-type: none"> <li>Pathways</li> <li>Sturdy footwear recommended</li> <li>Path surfaces reviewed and levelled</li> <li>Design of course</li> <li>Flat level platforms kept clear</li> <li>Pre-opening inspection</li> <li>Work area management</li> <li>Cabins / offices kept clean and tidy</li> <li>Tool storage areas</li> </ul>		1	3	3
Foot/Step Ladders	2	3	6	Employees Contractors	<ul style="list-style-type: none"> <li>Training</li> <li>Consider using cherry pickers</li> <li>Consider back-up safety system</li> </ul>		1	3	3

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<p>Inclement Weather</p> <ul style="list-style-type: none"> <li>• Lightning</li> <li>• High Wind</li> <li>• Ice and snow</li> <li>• Extreme Cold</li> <li>• Heat stroke</li> </ul>	3	3	9	<p>Course users Employees Contractors</p>	<ul style="list-style-type: none"> <li>• Course closure for lightning, high winds, heavy ice and snow. Duty Manager guidelines on cold weather. GAD</li> <li>• Evacuation Plans</li> <li>• Suitable clothing</li> <li>• Communications and use of radios</li> <li>• Rest periods</li> <li>• Training</li> <li>• Staff breaks</li> <li>• Consultation with weather experts</li> <li>• Consultation with tree expert</li> <li>• Inspection policy following inclement weather</li> <li>• Patrolling instructors observations (Beaufort land scale)</li> <li>• Provision of water</li> </ul>		1	3	3
<p>Darkness and inadequate lighting</p> <ul style="list-style-type: none"> <li>• Disorientation</li> <li>• Inability to read safety signs</li> <li>• Unable to see landing</li> <li>• Impaired supervision</li> </ul>	2	3	6	<p>Course users Employees Contractors</p>	<ul style="list-style-type: none"> <li>• Closure of course</li> <li>• Careful planning of session availability</li> <li>• Provision of sufficient, well sited and effective lighting</li> <li>• Adequate supervision</li> <li>• Staff assistance</li> </ul>		1	3	3
<p>Fire</p>	4	3	12	<p>Course users Employees Contractors Public</p>	<ul style="list-style-type: none"> <li>• Evacuation Plan</li> <li>• Fire extinguishers (water and powder)</li> <li>• Heaters kept clear</li> <li>• Heaters must be maintained in accordance with manufacturers instruction</li> <li>• Fire Extinguisher Serviced annually</li> </ul>		3	3	9
<p>Electrocution</p>	4	3	12	<p>Employees</p>	<ul style="list-style-type: none"> <li>• Electrical checks in accordance with legislation</li> <li>• Routine pre use visual inspections</li> </ul>		3	3	9
<p>Psychological effects</p> <ul style="list-style-type: none"> <li>• Stress</li> <li>• Trauma</li> </ul>	3	3	9	<p>Employees</p>	<ul style="list-style-type: none"> <li>• Adequate welfare arrangements</li> <li>• Employee Assistance Programme</li> </ul>		1	3	3

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Other Forest Users	4	3	12	Course users Employees Contractors Public	<ul style="list-style-type: none"> <li>• Signage</li> <li>• Awareness training</li> <li>• Instructors aware when leading groups</li> </ul>		1	3	3
Clothing & Jewellery	3	3	9	Course users Employees Contractors	<ul style="list-style-type: none"> <li>• Prohibit sandals, waist must be covered, no hoop earrings, necklaces tucked away.</li> <li>• Instructor check</li> </ul> Written Safety Rules and Advice		1	3	3
Medical conditions	2	2	4	Course users Employees	<ul style="list-style-type: none"> <li>• Medical and Disability Policies and Pregnancy Policy</li> <li>• Disclaimers self certification</li> <li>• Pregnancy self certification</li> <li>• Terms and Conditions</li> <li>• Staff training</li> <li>• Written Safety Rules and Advice</li> <li>• Systematic assessment of risk</li> <li>• Dynamic assessment of risk</li> <li>• Patrolling</li> </ul> Users advised to seek medical advice		1	2	2
Inadequate Supervision	3	3	9	Course users Employees	<ul style="list-style-type: none"> <li>• Ratios see Part 1, “Supervision”</li> </ul> <p style="text-align: center;"><b>Visual checks</b></p> <ul style="list-style-type: none"> <li>• RAD</li> <li>• Booking Terms and Conditions</li> <li>• Instructor check</li> <li>• Written Safety Rules and Advice</li> <li>• Included in training (pre brief)</li> <li>• Supervisor descends zip line last</li> <li>• Training</li> <li>• Group management advice provided to the supervisor.</li> </ul> <p style="text-align: center;"><b>Supervision</b></p> <ul style="list-style-type: none"> <li>• Supervision control that under 16’s no more than 1 tree away from supervisor.</li> <li>• Activity Specific supervision ratios to be followed</li> </ul>		1	3	3

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						Instructors patrol course as per site-specific patrolling method statement.				
	Rowdy Groups	2	3	6	Course Users	<ul style="list-style-type: none"> <li>Exclusion from course</li> <li>Written Safety Rules and Advice</li> <li>Terms and Conditions</li> <li>Patrolling</li> </ul> Verbal red/yellow warning		1	3	3
	Unauthorised Users	3	3	9	Public	<p style="text-align: center;"><b>Access to course</b></p> <ul style="list-style-type: none"> <li>Course open: Ladders protected by stockades, self-closing doors, coded locks changed regularly.</li> <li>Course closed: Ladders taken up and locked to platforms. Low nets raised. Tarzan Swing padlocked.</li> <li>Signage on gates</li> </ul> <p style="text-align: center;"><b>Operating procedures</b></p> <ul style="list-style-type: none"> <li>Patrols</li> </ul> Observing for signs of attempts to access course out of hours		2	3	6
	Construction and Course Work including:  SEE GAD CDM  Working at Height <ul style="list-style-type: none"> <li>Fatigue</li> <li>Entrapment and crushing</li> <li>Vertigo, motion sickness</li> <li>Strains, sprains and other manual handling injuries</li> <li>Weather: Cold, hypothermia and heat stress</li> </ul>	4	3	12	Employees Contractors	<ul style="list-style-type: none"> <li>No lone working</li> <li>Method statements</li> <li>Effective supervision</li> <li>Selection and use of suitable PPE</li> <li>Use of work restraint and fall arrest equipment</li> <li>Helmets worn</li> <li>Back up safety system</li> <li>Suitable clothing</li> <li>Rest periods</li> <li>Trained person on site</li> <li>Emergency plan</li> <li>Training</li> <li>Manual handling, correct use of ladders and cherry pickers</li> </ul>		3	3	9

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Access and egress to the work area Including zip wires	4	3	12	Employees Contractors	<ul style="list-style-type: none"> <li>Use of ladders and cherry pickers</li> <li>Work area management including provision of danger and exclusion zones and signage</li> <li>Consultation with landowner</li> </ul> Appropriate signage		2	3	6
Inappropriate use of equipment <ul style="list-style-type: none"> <li>Chainsaws, generators, electrical equipment, tools, vehicles, ladders.</li> </ul>	4	4	16	Employees Contractors	<ul style="list-style-type: none"> <li>Training</li> <li>Correct use of appropriate equipment, including PPE</li> <li>Safe fuel management</li> <li>Supervision</li> </ul> Directives to contractors		2	4	8
Electrocution	4	4	16	Employees Contractors	<ul style="list-style-type: none"> <li>Electrical equipment appropriate for all weather use</li> </ul> Battery power tools (and 240V versus 110V – consult further guidance)		2	4	8

Note 1: Where a control measure has been identified, it is only included once and not repeated under every serial number. Therefore for a specific hazard identified, a control measure in a serial above may apply to that hazard.

References: HSW Act 1974, MHSW Regs amended 1999, WAH Regs 2005, PUWER 1992, LOLER 1998, PPE Regs 1992, Workplace HSW Regs 1992, H&S (Safety Signs) Regs 1996, First Aid Regs 1981, Occupiers Liability Act 1984, European Standard for ropes courses EN 15567 Part 1 and Part 2, HSL “Guide to good practice in safety management of aerial ropes courses March 2010. AAIAC “UK Ropes Course Guide” (3<sup>rd</sup> edition) March 2011. Go Ape GAD, OD, TM.

**<sup>1</sup> Go Ape operational and training systems.** These include the following: Go Ape Operations manual(OD) and Appendices on how to run a Go Ape course, Go Ape Training Manual including training and assessment policy, online training, training objectives, generic PowerPoint presentations and training videos, Go Ape Duty Manager Training (DMT), Go Ape Rescue Package (RP), Go Ape Company Handbook and further library documents listed on the Document Library (OD).

**<sup>2</sup> Control Measures.** Where a control measure has been identified, it is only included once and not repeated under every serial number. Therefore for a specific hazard identified, a control measure in a serial above may apply to that hazard. (HSE RA guidance.)

**<sup>3</sup> Instructors Training.** Go Ape instructors must pass through a full training and assessment programme before they can instruct on Go Ape. They undergo training in accordance with the Go Ape Online Training / Manual, training and assessment policy and training objectives which includes the delivery of safety instruction, operational limits on the use of the course, course inspections during daily course opening and closing, supervision and patrolling techniques, personal protective equipment, harness fitting and inspection, emergency operations, health and safety and customer care. Instructors are First Aid trained. Only instructors with the correct aptitude are selected for additional training in rope rescue techniques. Go Ape’s rescue procedures have been developed in conjunction with an external specialist technical advisor who holds the Mountaineering Instructors Certificate and the European Mountain Leader Award (rescue procedures updated in 2005 by Berwyn Evans MIC). Training and assessment of rescue trained instructors is only carried out by our trained and qualified persons, who have been formally assessed as competent to do so by the Operations Manager responsible for training. Duty Managers complete an additional Duty Manager Training package. Site Managers attend annual Managers Training and quarterly Managers Meetings where they are updated on any operational changes including training requirements.

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**Abbreviations:**

AM = Go Ape Area Manager

BTC = Go Ape Booking Terms and Conditions

DMT = Duty Manager Training

EN(1), EN(2) = European Standard Part 1 (Construction and safety requirements), Part 2 (Operation requirements)

GAD = Go Ape Company Handbook and further library documents listed on the Document Library

OD = Go Ape operational Documents (including Operations Manual; exact titles of documents may change from time to time)

RAD = Risk Acknowledgement and Disclaimer

RP = Go Ape Rescue Package

SB = Safety Brief

SR = Safety Rules

TM = Go Ape Training Manual including training and assessment policy, online training, training objectives, generic PowerPoint presentations and training videos

The EN Standard / EN (1) / EN (2) = The European Standard "Sports and recreational facilities – Ropes courses" comes in two parts: EN 15567-1:2015 (Construction and safety requirements) and EN 15567-2:2015 (Operation requirements)

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