Info Log – Tracer lines

The incident
In September 2016 a young participant on a roped activity fell when their attachment to the rope failed at the point of loading the system. They sustained a broken elbow as a result. An internal investigation identified that the rope had, most likely, been attached via the tracer cord loop and not directly onto the rope itself.

The issue
Tracer lines are used on climbing walls, high ropes courses and some natural crags to avoid leaving ropes in place. This avoids the ropes being used when they shouldn’t and reduces the environmental degradation of the rope. There are two commonly used methods of attaching tracers to the rope, fig.1 below.

Option 1 – A length of accessory cord (red) is threaded through a hole and tied off. This system is also used to identify individual or batches of rope. The tracer (white) is tied into this loop and then the rope (black) is pulled up, tracer cord removed and a karabiner attached ready for the activity, fig. 2 below.

Option 2 – The tracer is threaded directly through a hole in the climbing rope (fig.1) which is then hauled up, the tracer cord removed and a karabiner attached, fig. 3 below.
On this occasion and having used option 1, it appears that the karabiner was accidentally unclipped from the rope during a changeover and then re-attached to the accessory cord instead of into the climbing rope, fig.4 below. Crucially this wasn’t noticed by the instructor the participant or any other members of the group. Not surprisingly it failed as soon as it was loaded and the participant fell to the ground.

Lessons Learned:

1/ Having a system of checking connections which engages the participant, other group members and the instructor is likely to be more effective than one which relies on a single person – even if the single person is an instructor!

2/ Check your systems, do they make what might appear to be an improbable mistake more or less likely? It isn’t possible for example to clip into a loop which isn’t there! (Option 2).

3/ Adaptations to equipment can, and usually do, create the potential for unintended consequences. Have you recognised these and prepared staff/participants accordingly?

4/ Just because something was never intended to become part of the safety chain doesn’t mean it won’t!

Tim Morton,
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