



## What goes up: safety training for the worst-case scenario

While standard rescue procedures for injured climbing arborists who become stuck up trees are well established, there are no formalised procedures in place for rescuing arborists from mobile elevating work platforms (MEWPs). This led arb contractor Maydencroft to organise a training day for its workforce outlining what to do if the worst should happen.

**▲**  
The Maydencroft team.

**A**RBORISTS who go up trees need to come down safely – but high risk is a fact of life for those working at height with sharp tools like chainsaws. However, with equally sharp focus and heavy emphasis on safety, the risks have been mitigated as far as possible over the years.

The most recent trend is the promotion of MEWPs (mobile elevating work platforms) at the expense of traditional tree climbing where at all possible. MEWPs are large and sophisticated machines with the capacity to make working at height easier and safer, although at the end of the day they are still machines and therefore may malfunction and even break down.

Standard rescue procedures for injured and/or incapacitated climbing arborists who become stranded and stuck up trees are well established. However, there are no formalised procedures in place for rescuing arborists from MEWPs, even in a worst-case and life-threatening scenario. That will be an injured or incapacitated arborist stranded at height on a platform when at the same time the MEWP is malfunctioning and unable to return the casualty to the ground by operation of the controls.

This scenario has vexed Patrick Venables, training and safety manager at Maydencroft in Hertfordshire. With its headquarters just outside Hitchin in North Hertfordshire, Maydencroft is one of the bigger arb contracting companies in the Home Counties with over 20 working arborists on the payroll and five arb teams out on site every day. The company invested in MEWP technology in 2018 by purchasing a Multi-Tel 27-metre MEWP model which has been in regular use over the last 18 months.

“Only two tickets are required for an arborist to work from a MEWP,” said Patrick. “These are ‘Operation of a MEWP’ and ‘Safe Operation of a Chainsaw from a MEWP’ but there are virtually no rescue-related requirements for working with MEWPs.”

This was confirmed by arborists on the Maydencroft payroll who have gained these tickets since the company invested in MEWP technology. Arboricultural team leader Lewis Johnson, who has been with Maydencroft for seven years, said: “The tickets required for working with MEWPs are essentially chainsaw-related and very much to do

with chainsaw safety. They focus, for example, on distance of use of the chainsaw from the cage (basket) and distance of other workers in the cage from the chainsaw operator.”

“As you can see there is a big gap in the safety procedure for working with MEWPs and for a whole range of scenarios, including the worst-case ones,” said Patrick. He told *essentialARB* how the classic worst-case scenario is a man or woman injured and incapacitated in the basket while at the same time the MEWP has ceased to function, and therefore is unable to bring the injured and incapacitated party down to the ground, whether operated from the basket or from the ground using normal or auxiliary controls.



**◀**  
Far left: Tom Ruffle (rescuer) attaching the lifting system to Lawrence Toogood (casualty).

Left: Poplar pole rescue carried out by Jim Shone (rescuer) and Lewis Johnson (casualty).

**▲**  
Above left: Nathan Chapman (rescuer) and Jamie Barton (casualty) descending the birch.

Above right: Patrick Venables demonstrates the MEWP's emergency lowering systems.

Patrick is not the sort of guy to sit around thinking about what to do and waiting for the great and the good to come up with solutions. Instead, he organised a whole day's training for the entire arb workforce and kindly invited *essentialARB* along to observe. The training day was held at the company's headquarters on a farm just outside Hitchin with its own woodland comprising a range of mature trees and therefore an ideal location.

When I arrived on a beautifully clear and sunny morning the training course was already underway. Patrick had split the company's workforce into two teams. Each team would carry out hands-on, safe rescue procedures from the MEWP but also standard rescue procedures from traditional tree-climbing situations. I had met many of these guys before during a day out with the company on two arb jobs in Hertfordshire. The first team to work with the MEWP was: Dan Archer, Dan Blackwell, James Hare, Tom Ruffle, Olly Scarlett, and Lawrence Toogood, who are all qualified climbing arborists, as per the policy at Maydencroft.

### MEWP RESCUE

This first training session with the MEWP was well

underway. Two of the guys were already at height on the platform and ready to go – Lawrence Toogood playing the injured party and Tom Ruffle the rescuer. “We are playing out the worst-case scenario,” said Patrick, citing, for example, a lorry having run into a MEWP working at the side of a dual carriageway or motorway. “The MEWP is completely disabled and there is an injured man up there who cannot rescue himself. Fortunately, this is an unlikely and rare scenario but we still have to plan for it,” he said.

The basket was close to a large hybrid poplar and clearly instrumental to the success of the operation and procedure in which the rescuer uses the tree to access the basket and the casualty. “If the platform is anywhere near a tree then there is always a chance that we can use this rescue procedure,” said Patrick. However, whether that chance becomes reality depends on the height of the tree in relation to the height of the MEWP platform, and accessibility of the basket from the tree, which essentially comes down to branching structure and therefore in large part to the tree species.

Arb contracts manager, Kit Johnson, explained: “Clearly the tree has to be higher than the platform



◀ Above: Ground crews assist in the final stages.



because the rescuer needs to lower into the basket, while at the same time the casualty has to be winched and hoisted up and over the side of the basket and onto the tree. Similarly, the basket needs to be sufficiently close to the main stem of the tree and a more likely scenario for slim-shaped tree canopies typical of, for example, black poplar hybrids, grey poplars (white poplar x aspen hybrids) and common ash, rather than the inherently broad canopy trees like English oak and common beech.

I watched on while the rescue operation was played out. Tom Ruffle climbs the tree to a point above the platform and sets up the rigging and lowers himself down into the basket. He attaches the casualty to the rigging system and to himself and then gets the casualty into a vertical position up against the basket. When ready and at a given signal the ground crew winch the casualty up and over the side, and out of the basket, and subsequently down the tree and onto the ground, while all the time the casualty is attached to the rescuer.

Back on the ground, safe and sound and no worse for wear, Tom Ruffle (trees team leader) and Lawrence Toogood (arb team leader) explained how they were using a custom-designed, three-pulley rigging system incorporating a Prussik, which is a friction hitch or knot used to attach a loop of cord around a rope. "It is a highly valuable friction device which stops slippage," they said.

Everything had gone well and according to plan but you don't have to be a qualified arborist to see that this is a highly complicated and skilled procedure that clearly comes with its own intrinsic risks. However,



Top left: Preparing to lift the casualty.

Above left: Casualty safely on the ground.

Above right: The team safely lowers the casualty.

leaving an injured arborist high up on a platform is not an option. "This procedure is a last resort," said Patrick as he took the team through the standard operating procedures which would verify that the MEWP is not working, before embarking on what is clearly a complex and potentially hazardous operation. "As soon as an operation is at height from the ground it automatically becomes hazardous," said Patrick.

He explained that once it is up the MEWP is operated from the platform but can be subsequently switched so that the ground crew can take over the controls. If this fails there are auxiliary controls that override the normal controls. If the engine has died and provided there is a ground crew of at least two guys then one can operate the controls while the other uses the lever to pump the hydraulic fluid within the MEWP.

"Once all of these options have been eliminated then the procedure you have just played out should be started without delay," Patrick told the team. But what if there is no tree from which the basket can be accessed? "In that case there is no option but to call the emergency services, who will be able to access the stranded basket and casualty from over and above using a much bigger MEWP," Patrick told *essentialARB*.

Before we moved on I asked Patrick about procedures if the MEWP breaks down but the occupant(s) of the cage are able-bodied and fully functional. "The stranded operator can throw his line into the tree and lower himself down in that way. As an absolute last resort a non-injured person can lower themselves down from the MEWP using their line

providing they use two points of attachment on the basket. These options are for non-injured operators only," said Patrick.

#### STANDARD RESCUE

From the giddy heights of MEWPs we walked over to where Team 2, comprising Kit Johnson, Lewis Johnson, Joel Hardy, Kurt Langley, Joel Fisher, Luke Gilbert, Nathan Chapman, Jamie Barton, and Jim Shone, was engaged in standard rescue procedures and operations. They were taking place in small woodland comprising a mixture of mature trees including silver birch and hybrid poplar. Patrick told *essentialARB* how Maydencroft undertakes this training every year for its entire arb workforce, as a refresher for the formal courses in aerial tree rescue undertaken by the guys to gain the corresponding tickets.

Two separate procedures were taking place, a poplar pole rescue and standard rescue from a living birch tree. The scenario for the pole rescue was the climber having knocked himself out although his equipment was still in good working order. I watched on while two guys played out the pole rescue procedure. Given the lack of structurally sound branches the rescuer had to attach a false anchor into the tree. Now attached to the false anchor and also to the casualty, the rescuer (Jim Shone) lowers himself and the casualty (Lewis Johnson) to the ground using both his and the casualty's friction devices.

"The scenario for the birch tree rescue was the stranded climber sustaining a damaged line due to the rope being nicked and unable to move past the damaged section or not being structurally sound enough to lower the climber's weight," said Patrick. "There is no need for a false anchor because the rescuer can put his lines around the tree's limbs," he added. However, in this case, the rescuer (Nathan Chapman) is forced to lower himself and the casualty (Jamie Barton) using only his friction device because the casualty's friction device is not working.

#### BE PREPARED

Lots of arb companies train their workforces in traditional rescue procedures and see these practice runs as essential annual refresher exercises for the workforce after acquiring their tickets in aerial tree rescue.

"MEWP rescue training is a much rarer event," said

Patrick. "But because we are now using MEWPs, and increasingly too, we have got to do it," while adding how this is the first MEWP rescue training event organised by Maydencroft. "MEWPs are now used in everyday work," he said.

Watching these events, you can see and appreciate the huge and incalculable benefits. From what I observed and heard from these working arborists such practice and training instils and breeds confidence in working methods, arb kit and, most of all, workmates.

"We currently have a certain amount of staff trained to work from MEWPs but we want everyone else on the payroll to be familiar with emergency procedures for the MEWP they are working with," said Kit Johnson. "For instance, we may have a six-man team but only two with MEWP tickets. Clearly these are the only two that can operate on and from the platform but we are teaching and training everyone else in elevation, lowering and associated emergency MEWP operation and procedure, and precisely because there are as yet no tickets in MEWP rescue."

Whichever way you view it, the use of sharp tools at height is potentially very dangerous. The industry has gone a long way to make such work as safe as humanly possible but there is clearly a need for formalised training in how to get injured or incapacitated arborists down if the MEWP malfunctions and stops working.

"At the end of the day it is about being prepared for all eventualities. The worst-case scenario played out today is unlikely to happen, but we must be prepared in case it does," added Patrick Venables.

**Dr Terry Mabbett**

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