

Less-Lethal Weapon

The move towards less-lethal technology such as baton rounds, Tasers and slightly more 'out there' suggestions such as heating people up in public order situations to make them move in America, are increasingly on the international police agenda.

Concerns over human rights and the search to find alternatives to resolve conflict without the need to resort to firearms has served to push the move towards effective less-lethal alternatives in the UK.

The L21A1 baton round is just one such technology. But following concerns about the damage that can be done when it hits more vulnerable areas of the body, such as the skull, new developments, designed to give officers a safer but just as accurate and effective tool in their less-lethal kit, have created the Attenuating Energy Projectile or AEP for short.

The projectile has been developed following months of scientific research by bodies such as the Police Scientific Development Board (PSDB) and the Defence Science and Technology Laboratory (DSTL) and

is set to be rolled out to forces in the UK by Summer 2005.

Background

The use of the original plastic baton round, the L5, known by the wider public as 'plastic bullets', became a focus in Northern Ireland, where, following its use in public order situations, it was associated with a number of deaths, including some children.

Ian Arundale, ACPO lead on less-lethal weapons and assistant chief constable of West Mercia Constabulary, explains: 'The perception of some people in Northern Ireland was these less-lethal weapons were used against men, women and children.'

He explains: 'The problem was that although the option is less-lethal compared to using firearms, it has been responsible for a number of deaths when a

person has been hit in the head or thorax area.'

This prompted the introduction of the L21A1 in June 2001, which was a more accurate device and reduced the probability of causing serious or life-threatening injuries, but it remained controversial in Northern Ireland.

A steering group led by the Northern Ireland Office, in consultation with ACPO, carried out international research into alternatives to the round but found that there were no products available to rival the baton round in terms of "effective capability that does not expose officers and the public to the greater risk involved in violent public disorder".

Accuracy

Although officers are trained to fire the rounds into the belt-buckle area of the body, there have been instances where the round has ricocheted off a building or floor and has the potential to hit a person in a vulnerable area.

A Home Office spokesman said: 'Development continues and the project is on course to have this projectile



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ready for operational use by summer 2005.

'The development of the AEP is, in part, a consequence of the Defence Scientific Advisory Council (DSAC) statement produced in April 2001 in relation to the comparative injury potential of the current baton round (L21A1).'

According to the statement by the Defence Scientific Advisory Council: "Users should be made aware that L21A1 baton rounds can ricochet in some circumstances with high energy, and that the presence of obstacles and of personnel other than the intended target should form part of their risk assessment in the decision to fire the weapon. A desire for a reduction of the ricochet potential should be stated in the research and operational requirements of future kinetic energy weapon systems, and be evaluated experimentally".

The research carried out also compared the baton round to the beanbag-type sock round, and found the baton round to be more accurate and less likely to cause injury.

'The sock round is 50 per cent less accurate than the current and future baton round and 50 per cent less accurate means there is more chance of it hitting a vital area of the body,' explains Mr Arundale.

The round is particularly accurate at 20 metres or less, but Mr Arundale emphasises that it is to

be targeted at individuals, not aimed at crowds in riot situations.

A typical example would be an individual who is self-harming or a threat to the lives of others. The round could be used in conjunction with other less-lethal alternatives to try to bring about a peaceful resolution.

Research

Paul Davis, secretary of the Federation's operational sub-committee, has been involved in looking at less-lethal alternatives.

He says: 'Some officers may think there are other things out there that are better but there needs to be an understanding that this round has gone through proper tests, whereas some of the other things out there could be classed as inadequate, even to the point of a product being knocked up in somebody's garage.'

This is why there is a push to put new technology through its paces. The Defence Scientific Technology Laboratory does exactly this, carries out rigorous tests on new technology. It is the reality behind the image of 'Q' in James Bond, wandering around in his white lab coat talking Bond through the latest pen gun technology.

The new round, the AEP, is just one of the advancements that has been subjected to the rigours of testing.

Mr Arundale states the odds when it comes to the numbers of less lethals on the market: 'Whilst there are about 100 less-lethal options, ultimately, experts say only two or three of these things are worthy of consideration.'

The DSTL carry out the tests on less-lethal weapons on behalf of different bodies such as independent medical advisors and the Ministry of Defence to ensure the less-lethal weapons that are used by police officers have been proved to be effective and as safe as possible.

Mr Arundale adds that when officers use a weapon that has undergone the right scientific and medical tests it gives them a much greater deal of protection.

'They have protection of The Manual of Guidance on the Police Use of Firearms and a scientifically evaluated system,' he explains.

The DSTL examine aspects such as; accuracy, effective range and possible impact on vulnerable parts of the body such as the skull and chest and different environments such as freezing temperatures.

The round has been fired in a simulated operational environment in Northern Ireland at buildings, rubble and doors to examine the potential for ricochet during tests.

'It's basically the shake, rattle and roll test. This is extremely important for officers on the ground, how will the less-lethal weapon operate after rolling around in the back of a Landover or whatever. This could be looking at how effective the baton gun and round are at different temperatures or different environments,' says Mr Davis.

Chief officers were looking for something as effective as the current round but less likely to result in death or injury if a critical area is hit.

The new round has been designed to be accurate and also has a built in space which will distort on impact if it hits a hard surface like the skull to reduce the potential for serious injury.

Common misconceptions

Research on baton rounds and how they affect the human body found that the point of aim should be in the belt-buckle area. This

reduces the potential for severe injury to the organs in the chest cavity, the face, eyes and brain.

The idea is to 'neutralise the threat', to incapacitate the person, rather than injure them severely or fatally.

'If the impact round system is to work, it must hit the small point of the body to gain pain compliance. It basically feels like someone giving you a punch in the stomach. It would wind a person if it hits soft tissue like the stomach. The visceral pain receptors contained within the abdomen would cause the person to change their behaviour. This could, for example, make them stop if running from a crime scene, but not fatally injure them,' said Mr Davis.

Mr Arundale adds that the round is simply one option, not to be viewed as a total solution but to be used alongside other less-lethal alternatives such as negotiation and police dogs.

'There is no magic bullet that will put a person down, not injure them and allow them to get up, unharmed and uninjured. Used in conjunction with other tactics, the round has the potential for the safe resolution.'

He adds: 'Officers need to know the benefits and limitations of the option. The round should not be expected to incapacitate, but combined with other options it will give officers a choice to come to a safe, positive resolution.'

What are baton rounds and how are they monitored?

Baton rounds were introduced in the 1970s and are available for use in all UK police forces. They have been fired on more than 30 occasions in England and Wales, but have not been fired in Northern Ireland since September 2002.

The police ombudsman is responsible for monitoring the use of baton rounds in Northern Ireland and the Independent Police Complaints Commission in England and Wales where there is death or serious injury.

