

Porton Down

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Porton Down is a United Kingdom government military science park. It is situated slightly northeast of Porton near Salisbury in Wiltshire, England. To the northwest lies the MoD Boscombe Down test range facility which is operated by QinetiQ. On maps, Porton Down has a "Danger Area" surrounding the entire complex.^[1]

It is home to the Defence Science and Technology Laboratory, known as Dstl. Dstl is an Executive Agency of the Ministry of Defence (MoD), and the site is believed to be one of the United Kingdom's most sensitive and secretive government facilities for military research, including chemical, biological, radiological and nuclear defence (CBRN) defence. The Dstl site occupies 7,000 acres (28 km²).^[2]

It is also home to Public Health England's Porton Down Centre as well as a small science park which includes companies such as Tettricus Bioscience^[3] and Ploughshare Innovations.^[4]

The site is commonly confused with the nearby chemical-biological-radiological-nuclear (CBRN) training facility, the Defence CBRN Centre at Winterbourne Gunner.

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History

Porton Down was set up during the Great War to provide a proper scientific basis for the British use of chemical warfare, in response to the earlier German use of this means of war in 1915. Work at Porton started in March 1916. At the time, only a few cottages and farm buildings were scattered on the downs at Porton and Idmiston.

Origins

Porton Down originally opened in 1916 as the **Royal Engineers Experimental Station** as a site for testing chemical weapons. The laboratory's remit was to conduct research and development regarding chemical weapons agents such as chlorine, phosgene and mustard gas by the British armed forces in the First World War.

By 1918 the original two huts had become a large hutted camp with 50 officers and 1,100 other ranks. Studies in the Great War mainly concerned the dissemination of chlorine and phosgene and, later, mustard gas. By May 1917 the focus for anti-gas defence and respirator development had moved from London to Porton Down.



2-inch mortar trials, 1917

After the Armistice, Porton Down was reduced to a skeleton staff.

Post World War I

In 1919 the War Office set up the Holland Committee to consider the future of chemical warfare and defence. By 1920, the Cabinet agreed to the Committee's recommendation that work should continue at Porton Down. From that date a slow permanent building programme began, coupled with the gradual recruitment of civilian scientists. By 1922, there were 380 servicemen, 23 scientific and technical civil servants and 25 "civilian subordinates". By 1925 the civilian staff had doubled.

By 1926 the chemical defence aspects of Air Raid Precautions (ARP) for the civilian population was added to the Station's responsibilities. By 1938, the international situation was such that offensive chemical warfare research and development and the production of war reserve stocks of chemical warfare agents by the chemical industry was authorised by the Cabinet. Britain had ratified the 1925 Geneva Protocol in 1930 with reservations which permitted the use of chemical warfare agents only in retaliation.

Second World War

During the Second World War, research concentrated on chemical weapons such as nitrogen mustard, plus biological weapons, including anthrax and botulinum toxin. In 1942, tests of an anthrax bio-weapon developed at Porton Down were held at Gruinard Island.

During the Second World War as Allied armies penetrated Germany, they discovered operational stockpiles of munitions and weapons that contained new chemical warfare agents; the highly toxic organophosphorous nerve agents, unknown to Britain and the Allies.

Post-war period

The Common Cold Unit (CCU) was sometimes confused with the Microbiological Research Establishment at Porton Down, with which it occasionally collaborated but was not officially connected. The CCU was located at Harvard Hospital, Harnham Down, on the west side of Salisbury.

When World War II ended, the advanced state of German technology regarding nerve agents, such as tabun, sarin and soman, surprised the Allies and they were eager to capitalise on it. Subsequent research took the newly discovered German nerve agents as a starting point, and eventually VX nerve agent was developed at

Porton Down in 1952.

In the late 1940s and early 1950s, research and development at Porton Down was aimed at providing Britain with the means to arm itself with a modern nerve agent-based capability and to develop specific means of defence against these agents. In the end these aims came to nothing on the offensive side because of the decision to abandon any sort of British chemical warfare capability. On the defensive side there were years of difficult work to develop the means of prophylaxis, therapy, rapid detection and identification, decontamination, and more effective protection of the body against nerve agents, capable of exerting effects through the skin, the eyes and respiratory tract.

Tests were carried out on servicemen to determine the effects of nerve agents on human subjects, with one recorded death due to a nerve gas experiment. There have been persistent allegations of unethical human experimentation at Porton Down, such as those relating to the death of Leading Aircraftman Ronald Maddison, aged 20, in 1953. Maddison was taking part in sarin nerve agent toxicity tests. Sarin was dripped onto his arm and he died shortly afterwards.

In the 1950s the Chemical Defence Experimental Establishment became involved with the development of CS, a riot control agent, and took an increasing role in trauma and wound ballistics work. Both these facets of Porton Down's work had become more important because of the unrest and increasing violence in Northern Ireland.

In 1970 the senior establishment at Porton Down was named as the Chemical Defence Establishment, remaining under this title for the next 21 years. Preoccupation with defence against the nerve agents continued, but in the 1970s and 1980s, the Establishment was also concerned with studying reported chemical warfare by Iraq against Iran and against its own Kurdish population.

Porton Down was the laboratory where initial samples of the Ebola virus were sent in 1976 during the first confirmed outbreak of the disease in Africa. The laboratory now contains samples of some of the world's most aggressive pathogens including Ebola, anthrax and the plague, and is leading the UK's current research into viral inoculations.^[5]

Until 2001 the military installation of Porton Down was part of the UK government's Defence Evaluation and Research Agency. DERA was split into QinetiQ, initially a fully government-owned company, and the Defence Science and Technology Laboratory (Dstl). Dstl incorporates all of DERA's activities deemed unsuitable for the privatisation planned for QinetiQ, particularly Porton Down.

Controversy

Secrecy

Most of the work carried out at Porton Down has to date remained secret. Bruce George, Member of Parliament and Chairman of the Commons Defence Committee (defence select committee), told BBC News on 20 August 1999 that:

"I would not say that the Defence Committee is micro-managing either DERA or Porton Down. We visit it, but, with eleven members of Parliament and five staff covering a labyrinthine department like the Ministry of Defence and the Armed Forces, it would be quite erroneous of me and misleading for me to say that we know everything that's going on in Porton Down. It's too

big for us to know, and secondly, there are many things happening there that I'm not even certain Ministers are fully aware of, let alone Parliamentarians." The defense minister said: "They undertake enormously important work on defensive measures and obviously you don't want to publicise the details of all of that."^[6]

Cannabis cultivation

Porton Down is being used as a registered controlled-substance research facility, where the biotechnology Company GW Pharmaceuticals is developing unknown medicinal strains and cannabis-related patents, with the help of Hortapharm B.V..^[7] BBC had access to their installations in their program, *Cannabis: The Evil Weed?*.

Deaths attributed to Porton Down

Porton Down has been involved in human testing. A second inquest on Ronald Maddison commenced in May 2004, after many years of lobbying by his relatives and their supporters. It found the death of Ronald Maddison to have been unlawful,^[8] this was challenged by the Ministry of Defence,^[9] but the verdict was upheld and the case settled by the government.^[10]

In February 2006 three ex-servicemen were awarded compensation in an out-of-court settlement after claims they were given LSD without their consent during the 1950s.^{[11][12]}

Use of animals

DSTL Porton Down is also involved in animal testing. The "three Rs" of 'reduce' (the number of animals used), 'refine' (animal procedures) and 'replace' (animal tests with non-animal tests) are used as the basic code of practice.^[13] There has been a decrease in animal experimentation in recent years.^[14] The Defence Science and Technology Laboratory complies with all UK legislation relating to animals.^[15]

During 2005, 21,118 procedures were undertaken which involved the use of animals,^[16] nearly double the number undertaken in 1997.^[17] In 2005, approximately 95% of the animals used (20,016) were mice. Other animals used included guinea pigs, rats, pigs, ferrets, sheep, and non-human primates (believed to be marmosets and Rhesus macaque). The figures released in 2005 reveal that one cow was used in a secret experiment in 2004.^[16]

In 2009, there were 8,168 procedures using animals.^[14]

Different departments at Porton Down use animal experiments in different ways. Dstl's Biomedical Sciences department is involved with drug evaluation and efficacy testing (toxicology, pharmacology, physiology, behavioural science, human science), trauma and surgery studies, and animal breeding. The Physical Sciences department also uses animals in its 'Armour Physics' research.

Like other aspects of research at Porton Down, precise details of animal experiments are generally kept secret. Media reports have suggested they include exposing monkeys to anthrax, draining the blood of pigs and injecting them with *E. coli* bacteria, and exposing animals to a variety of lethal, toxic nerve agents.^[18] Different animals are used for very different purposes. According to a 2002 report from the Animal Welfare

Advisory Committee of the Ministry of Defence, mice are used mainly to research "the development of vaccines and treatments for microbial and viral infections", while pigs are used to "develop personal protective equipment to protect against blast injury to the thorax".^[19]

Porton Down in popular culture

- Grimbledon Down was a comic strip by British cartoonist Bill Tidy, published for many years by *New Scientist*. The strip was set in an ostensibly fictitious UK government research lab, referring to the controversial Porton Down bio-chemical research facility.^[20]
- Porton Down and activities there during the 1940s and early 1950s are a significant plot point in Episode One and Two of the second season of ITV's mystery series *The Bletchley Circle*.
- Porton Down was mentioned in *Sherlock* episode "The Hounds of Baskerville" (2012) as the model for fictitious government research facility Baskerville.
- Porton Down was mentioned in the BBC television programme *Spooks* Episode Two Series Three, in relation to fictional MI5 involvement in chemical weapons testing.
- Porton down is the name of a song by Peter Hammill

Ufology

In 2008, the *Daily Mail* published a story which said "UFO believers" claimed that alien bodies were taken to Porton Down from the site of an alleged UFO crash on the Berwyn Mountains in North Wales, an event most commonly referred to as the Berwyn Mountain Incident.^[21]

See also

- Rawalpindi experiments
- Biopreparat
- Guatemala syphilis experiment
- Boscombe Down
- Dugway Proving Ground
- Fort Detrick
- Fort Halstead
- Lancelot Ware
- RAF Rudloe Manor
- RRH Portreath (Nancekuke)
- The United Kingdom and weapons of mass destruction

References

- *Porton Down: a brief history* by G B Carter, Porton Down's official historian.
- *Chemical and Biological Defence at Porton Down 1916–2000* (The Stationery Office, 2000). by G B Carter
- *Cold War, Hot Science: Applied Research in Britain's Defence Laboratories, 1945-199* by Bud & Gummatt
- *Sherlock* (BBC series),Hound of the Baskervilles

Notes

1. For further details of these please see Ordnance Survey map number '184' of the 'Landranger' series of maps. A smaller view of this is available online at <http://www.ordnancesurvey.co.uk> Online Ordnance Survey small map
2. "Porton Down - a sinister air?" (<http://news.bbc.co.uk/1/hi/uk/426154.stm>). *BBC News*. 20 August 1999.
3. <http://www.tetricus.co.uk/> Tetricus
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5. [1] (<http://www.bbc.co.uk/news/health-28773174>)
6. "Chemical base 'too big', says MP" (<http://news.bbc.co.uk/1/hi/uk/425689.stm>). *BBC News*. 20 August 1999.
7. <http://www.ist-world.info/OrgUnitDetails.aspx?OrgUnitId=5afd858aa53d4002b11c1528dbba31f7> GW PHARMACEUTICALS LTD Addressline 1: Porton Down Science Park – City Town: 0JQ SALISBURY – Post Code: SP4 – Country: UNITED KINGDOM
8. "Nerve gas death was 'unlawful' " (<http://news.bbc.co.uk/1/hi/england/wiltshire/4013767.stm>). *BBC News*. 15 November 2004.
9. "MoD 'can challenge Porton case' " (http://news.bbc.co.uk/2/hi/uk_news/england/wiltshire/4459217.stm). *BBC News*. 19 April 2005.
10. "MoD agrees sarin case settlement" (<http://news.bbc.co.uk/1/hi/england/4709526.stm>). *BBC News*. 13 February 2006.
11. "MI6 payouts over secret LSD tests" (<http://news.bbc.co.uk/1/hi/uk/4745748.stm>). *BBC News*. 24 February 2006.
12. Evans, Rob (24 February 2006). *The Guardian* <http://www.theguardian.com/uk/2006/feb/24/military.past>. Missing or empty |title= (help)
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17. House of Commons Hansard Written Answers for 4 Jun 2003 (pt 14) (http://www.publications.parliament.uk/pa/cm200203/cmhansrd/vo030604/text/30604w14.htm#30604w14.html_spnew2)
18. *The Independent* (London) <http://news.independent.co.uk/uk/politics/article447816.ece>. Missing or empty |title= (help)
19. <http://www.mod.uk/NR/rdonlyres/F4AAE7BE-9D64-4FB5-A41F-481807F4DB21/0/awac6threport.pdf>
20. Hammond, Peter M.; Carter, Gradon (2002). *From Biological Warfare to Healthcare: Porton Down 1940–2000*. Basingstoke: Palgrave Macmillan. p. 1. ISBN 9780230287211.
21. "New UFO witness reopens 1970s mystery of the 'Welsh Roswell' " (<http://www.dailymail.co.uk/news/article-1030805/New-UFO-witness-reopens-1970s-mystery-Welsh-Roswell.html>). *Daily Mail* (London).

External links

- DSTL Official Website (<http://www.dstl.gov.uk/index.php>)
- British Ministry of Defence official Porton Down page



Wikimedia Commons has media related to **Porton Down**.

(<http://www.mod.uk/DefenceInternet/AboutDefence/WhatWeDo/HealthandSafety/PortonDownVolunteers/PortonDown.htm>)

- University of Kent Porton Down Project (<http://www.kent.ac.uk/porton-down-project/Index.htm>)
- Wiltshire police Operation Antler information (<http://www.wiltshire.police.uk/antler/>)
- BBC News report, November 2002: Nerve gas inquest to be re-opened (<http://news.bbc.co.uk/1/hi/england/2488473.stm>)
- Porton Down Veterans' Support Group (<http://www.portonveterans.8m.com/>)
- Letter from the Department of Health to Health Authorities regarding the Porton Down volunteers (<http://www.info.doh.gov.uk/doh/embroadcast.nsf/0/82ffaf249055e5a80256dad004a7d19?OpenDocument>)
- BBC News, MI6 payouts over secret LSD tests (<http://news.bbc.co.uk/1/hi/uk/4745748.stm>)
- EyeSpy mag article on Porton Down (<http://www.eyespymag.com/features/porton.html>)
- BBC News – MOD pays out over nerve gas death (<http://news.bbc.co.uk/1/hi/england/5018084.stm>)

- Gaddum Papers at the Royal Society (<http://www.royalsoc.ac.uk/page.asp?id=5970>)

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