

Astronaut eye problems blamed on spinal fluid

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Scientists might have found the root cause of vision problems that affect some astronauts.

Some spacefarers who stay in orbit for long periods develop blurry vision along with a suite of physical changes.

Now, a team of researchers says that the syndrome might be related to changes in the clear fluid which surrounds the brain and spinal cord.

The results from a small sample have been presented at a scientific meeting in Chicago, US.

Over the last decade, flight surgeons and scientists at Nasa have seen a pattern of vision problems in astronauts on long-duration space missions.

The syndrome, known as visual impairment intracranial pressure (VIIP), has been reported in nearly two-thirds of space explorers after long periods spent aboard the International Space Station (ISS).

"People initially didn't know what to make of it, and by 2010 there was growing concern as it became apparent that some of the astronauts had severe structural changes that were not fully reversible upon return to Earth," said lead author Noam Alperin, from the University of Miami.

Confused by space

In addition to blurry vision, the astronauts exhibited flattening at the back of their eyeballs and inflammation at the head of the optic nerve.

One idea is that the changes have been largely due to shifts in fluid occupying the body's vascular spaces. This moves towards the upper body when astronauts spend time in space.

But Prof Alperin has been looking at another potential source of the problems - the cerebrospinal fluid. This helps cushion the brain and spinal cord, and can accommodate the changes when a person moves from a lying to a standing position.

"In space the system is confused by the lack of the posture-related pressure changes," Prof Alperin explained.

The team performed high-resolution MRI scans before and shortly after spaceflights for seven long-duration astronauts.

They compared the results with nine astronauts who flew into orbit for short stints on the space shuttle.

'Irreversible' damage

The results showed that long-duration astronauts had significantly greater post-flight increases in the volume of CSF within the bony cavity of the skull that holds the eye, and also in the volume of CSF in the cavities of the brain where the fluid is produced.

The sample size is small, and the results have not yet appeared in a peer-reviewed journal. But Prof Alperin says the research points to a "primary and direct role of the CSF in the globe deformations seen in astronauts with visual impairment syndrome".

"If the ocular structural deformations are not identified early, astronauts could suffer irreversible damage," he said, "as the eye globe becomes more flattened, the astronauts become hyperopic, or far-sighted."

Prof Alperin has received a \$600,000 grant from Nasa to study the condition.

He outlined the findings at the annual meeting of the Radiological Society of North America (RSNA) in Chicago.

The Morning-After Pill Should Be On Pharmacy Shelves, Charity Says

The British Pregnancy Advisory Service is calling for a reclassification of emergency contraception that would allow people to buy the morning-after pill without consultation.

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[Laura Silver](#)

BuzzFeed News Reporter

The morning-after pill should be available to buy straight from pharmacy shelves without the need for a private patient consultation, the British Pregnancy Advisory Service (BPAS) has said.

The emergency contraception pill, usually known by the brand names Levonelle, Boots Emergency Contraceptive, or Consilient, has been available to buy from pharmacies in the UK for the past 15 years and currently costs around £30.

It can be taken up to 72 hours after unprotected sex in order to prevent pregnancy. Patients do not need a prescription from their GP but are required to have a private consultation with a pharmacist before they can access the drug.

BPAS is calling on the Department of Health to reclassify the morning-after pill as a general sales list drug, which would allow people to buy it directly from shop shelves.

Eliminating the need for the consultation could help bring down the £30 charge, which adds a staff cost to the distribution of the drug, the charity said.

While emergency contraception is available for free with a prescription, difficulties getting a GP appointment and restrictions on sexual health services as a result of public spending cuts can make the drug difficult to access free of charge during the short window of time in which it can be taken. Natika H. Halil, CEO of the Family Planning Association (FPA), a sexual health charity, said accessing emergency contraception via a pharmacy was preferable for many women, but that cost was often a barrier. "FPA would like to see universal free access to emergency contraception, so that no one has to pay," Halil told BuzzFeed News. "Free access should be regardless of age – people don't suddenly stop having sex when they reach the age of 25."

A third of women have had unprotected sex in the last 12 months, and 68% of them have not subsequently sought the morning-after pill, according to research into attitudes around contraception.

BPAS said it regularly encounters unwanted pregnancies among women for whom the cost of emergency contraception was an obstacle.

"It is utterly stupid that we have made a medication which gives women a second chance of avoiding an unwanted pregnancy so hard to obtain," said Ann Furedi, chief executive of BPAS. "There is no

financial justification for the high price of this pill, nor clinical reason for a consultation before it can be sold.

“People are trusted to use a wide variety of medications sold on the shelves of pharmacies in a sensible and appropriate way.

“Emergency contraception should be no different. It’s time to ditch what is the ultimate sexist surcharge and put emergency contraception where it belongs – on the shelf, at a price women can afford.”

Sue Burchill, head of nursing at Brook, the UK’s leading sexual health and wellbeing charity for young people, said that while the charity would welcome a reduction in the cost of emergency contraception in order to make it more accessible to women, she believed the consultation process was still hugely valuable – especially in the case of under-18s.

“We see a number of vulnerable young people through our work and so we see the huge benefit to providing emergency contraception as part of a comprehensive consultation with appropriate levels of safeguarding,” Burchill told BuzzFeed News.

“It also gives us a chance to chat to them about the most effective methods of contraception out there – such as the contraceptive injection and the implant.”

But, she added, it was important to consider the role increased access to contraception has played in the reduction of teenage pregnancy rates, which are at their lowest in England and Wales since 1969.

“To keep these rates falling, we’d urge the government not to rest on their laurels now, and to listen to and support organisations like BPAS and Brook who understand what young women want and need,” Burchill said.

As well as challenging the Department of Health on the cost of emergency contraception, BPAS is launching the #JustSayNon campaign to highlight the discrepancy between the cost of emergency contraception in the UK and the rest of Europe, particularly France, where the morning-after pill costs just €7 (around £6). In Germany it costs €16 (around £13).

When the drug was first made available over the counter in the UK in 2003 at a cost of £24, [research published in the *Pharmaceutical Journal*](#) showed three-quarters of pharmacists believed the drug was unaffordable to teenagers.

It is believed the cost is deliberately set high to prevent women considering it to be a regular form of contraception.

Sophie Walker, leader of the Women’s Equality party, told BuzzFeed News delegates at the party’s recent conference had voted overwhelmingly in favour of conducting an inquiry into the cost of over-the-counter emergency contraception.

(more on website)