



## Wright Brothers Day

One important day that changed the world was the day when a man was able to fly through the air in the style of a bird! Not only was this unprecedented, but it set the stage for a whole host of other ideas and inventions that have contributed to the advancement of technology as well as the adventure into space. The airplane has certainly made the globe a much smaller, more accessible place for humans. And right at the beginning of it all were two brothers from the US state of Ohio, Orville and Wilbur Wright.

## #AIR-TRAVEL

# No more ear-ritation!

If you feel a strange sensation in your ear as soon as your flight takes off, you might be dealing with airplane ear. While it can be uncomfortable, it can be relieved with some simple tricks.



The World's 1st test tube baby, Louise Brown.

Does the excitement of your much-awaited trip suddenly fade the moment your flight takes off? Thanks to a sharp, annoying pain in your ears! And worse, it doesn't just disappear mid-flight, it lingers even after you

### So, why does it happen?

Airplane ear, also called barotrauma, occurs when the pressure in the middle ear doesn't equalise with the air pressure outside. This may cause ear pain, uneasiness, and even lead to hearing impairment. As an airplane takes off or lands, the air pressure in the cabin changes. Normally, the Eustachian tube, a small canal connecting

### It's quite common

Airplane ear is a common phenomenon, particularly during flights. Almost everyone experiences some level of ear discomfort when flying, but some are more susceptible. People with sinus issues, colds, nasal congestion, or allergies are at higher risk because these conditions can interfere with the

### Know the symptoms

The most common symptom of airplane ear is a feeling of fullness or blockage in the ear. One may also experience ringing in the ears or

### Save your ears

- To help prevent or relieve the discomfort of airplane ear, try yawning or swallowing frequently, as this helps open the Eustachian tubes and equalise pressure.
- Chewing gum or sucking on candy can encourage swallowing, which also balances pressure in the ear.
- If you're dealing with sinus congestion or a cold, using a decongestant or nasal spray before your flight may reduce the risk of discomfort.
- Valsalva maneuver*, gently blowing your nose with your mouth closed, can

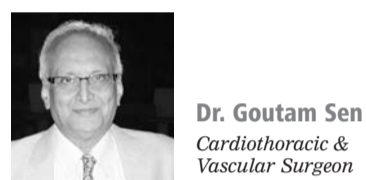
### When to seek professional help?

In most cases, airplane ear resolves on its own after the flight, without the need for medical treatment. However, if the symptoms persist, worsen, or cause significant discomfort, it is advisable to consult a healthcare professional. If there is an infection or a rupture of the eardrum, medical treatment such as antibiotics, pain relief, or ear drops may be required. In extreme cases, a doctor may recommend a procedure to help equalise the pressure in the ear.



# Closed Minds can kill but not Forever

The prejudice was so strong that the Director Health Services, West Bengal, barred him from presenting his work at any conference and refused permission to apply for a passport to attend international conferences to which Subhash was invited. The Left Front government in West Bengal set up a four-member inquiry committee, under the chairmanship of Dr. Mrinal K Dasgupta, a Radio-Astronomer, in which neither he nor other members had the required expertise to evaluate the work. It was probably an intentional effort to denigrate the research!



Dr. Goutam Sen  
Cardiothoracic & Vascular Surgeon

Medical research has rarely had a smooth path. The hit and miss syndrome is accepted norm, but occasionally the society has also got a major say in the product.

I had the pleasure of viewing a film entitled 'Joy' recently. It was based on the trials and travails of three people, who were attempting the first IVF (In Vitro Fertilisation) way back in the 1970s in United Kingdom. Robert Edwards, Jean Purdy and Patrick Steptoe pioneered the project in most abysmal circumstances. They were socially boycotted and

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despite the failures. His belief in the project was so strong that he created space in an abandoned area in his hospital in Oldham against many protests and constant ridicule. His ability to harvest the ovum with a laparoscope was one of the key factors in the success of IVF. As the story progressed, many reasons behind the project were unveiled. Edwards was concerned about the millions of women who could not conceive because of mechanical obstruction of the Fallopian tubes and pelvic inflammation or abnormalities. He was a proud parent of two girls and wished all couples the same joy. In case of Jean, she was primarily interested in the project because of the immense benefit it would give to a large number of childless couples. She herself was also aware that because of *endometriosis* (a disorder in which tissue that normally lines the uterus grows outside it), she would never be able to be a mother. It could have been a driving force for her.

The story also revealed how meticulous the research has to be and how many pitfalls there were on the way. In fact, first successful implants were not in situ.

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## #TRIALS AND TRAVAILS OF IVF



India's first test-tube baby, Kanupriya Agarwal.



Louise Brown, World's First IVF Baby.

done the attempt and was trying to be elected as an MP for Cambridge. It was a matter of chance that Lesley Brown, a working class woman from a deprived area of Bristol, became the first woman in the world to have a successful IVF treatment. Even then, the acceptance of the process was not in situ.

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The year 1978, separated by just 67 days, saw the birth of two miracle babies, Louise Brown and Durga (Kanupriya Agarwal). Both were the first babies produced using in vitro fertilisation (IVF), commonly known as 'test tube babies'. Though the description of similar methods has been in ancient Indian textbooks, and this feat, Prof. Robert G Edwards, as mentioned earlier, was the doctor behind the birth of Louise Brown. He became famous for his path-breaking work and was awarded the Nobel Prize in Medicine in 2010. (By that time, Jean had passed away due to cancer at the age of forty and Dr. Steptoe was quite old and did not survive long.) To overcome barrenness, Prof. Robert G Edwards,

The path-breaking work of Prof. Subhash Mukhopadhyay, resulting in the birth of the first Indian IVF baby, was derided by the Indian medical fraternity. At a meeting organised by the Indian Medical Association (IMA) and the Bengal Obstetrics and Gynaecological Society (BOGS) at Chittaranjan Cancer Institute, he presented pictures of in vitro embryos, but the people were credulous, unimpressed and scoffed at him.

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apply for a passport to attend international conferences to which Subhash was invited. The Left Front government in West Bengal set up a four-member inquiry committee, under the chairmanship of Dr. Mrinal K Dasgupta, a Radio-Astronomer, in which neither he nor other members had the required expertise to evaluate the work. It was probably an intentional effort to denigrate the research!

The committee not only doubted every aspect of his work, but also put ridiculous farrago of infuriating stupid questions to humiliate him. He said to the committee, "It is fine. Don't believe me, I will do it again. That is how science works." Fearing the same behaviour, the parents of Durga refused to participate in the inquiry or undergo any medical checkup. The committee, in its four-page report concluded the work to be bogus and unfeasible.

Dr. Mukhopadhyay suffered a heart attack due to stress in 1980. Facing ignominy, he committed suicide by hanging on 19 June, 1981. In his suicide note, he wrote, "I can't wait every day for a heart attack to kill me." A brilliant scientist, who could have contributed immensely to the field of Reproductive Biology with his cutting-edge research and brought laurels to India, left the world, dejected and unrecognized.

Although his wife, Namita Mukhopadhyay and colleague, Prof. Sunit Mukherjee continued their relentless efforts to get him due recognition, he and his work slowly faded into oblivion.

It was only in 2002 that the ICMR recognised Prof. Subhash Mukhopadhyay as the pioneer of IVF in India, and later started an award in his memory in 2012. At an event organised in memory of Prof. Mukhopadhyay in 2003,

Durga also came forward and narrated the story behind her birth. In 2007, Prof. Mukhopadhyay was included in the Dictionary of Medical Biography, UK. After Ronald Ross and U.N. Brahmachari, he became the third scientist from Kolkata to be included in the list. The Department of Reproductive Physiology at Nil Ratan Sircar Medical College, Kolkata was later renamed after him. Dr. Subhash Mukherjee Memorial Reproductive Biology Research Centre at Behala, Calcutta was established in 1985 by the Jadavpur University, Indian Cryogenics Council at Behala and a Brahmachari Hospital. In 2018, his life-sized statue was unveiled at his birthplace, Hazaribagh.

Number of today, an unprecedented number of more than twenty million babies are born by IVF world over. The experience with IVF proves that medical research has immense pitfalls. It is not just the arduous research, but also approbation of society that has to be faced. There are other instances of such distressful treatment to great researchers. Here are a few examples of medical research that faced initial criticism but ultimately proved successful.

**Vaccines:** Edward Jenner's smallpox vaccine in the late 1700s was met with skepticism and fear. Many believed that it was unsafe and unnatural. However, over time, the effectiveness of vaccines in preventing deadly diseases became evident, leading to their widespread acceptance. Today, it has been able to wipe the disease from the face of this world.

**Antiseptic handwashing:** Ignaz Semmelweis, a Hungarian doctor in the 19th century, advocated



Now honoured by a statue.

for handwashing to prevent the spread of pregnancy and delivery infection in hospitals. His colleagues ridiculed him, but his practice significantly reduced mortality rates, eventually leading to the acceptance of antiseptic techniques. They even tried incarcerating him in a mental asylum. He died a disappointed man.

**Penicillin:** When Alexander Fleming discovered Penicillin in 1928, it was initially dismissed as too unstable for practical use. However, further research and development led to the creation of stable Penicillin, revolutionising treatment of bacterial infections.

**Organ transplantation:** Early organ transplants were met with skepticism and ethical concerns. However, advancements in surgical techniques and immunosuppressive drugs made organ transplantation a life-saving procedure for many.

**Gene therapy:** Gene therapy, which involves modifying genes to treat diseases, was once considered a futuristic concept. While still in its early stages, gene therapy has shown promising results in treating certain genetic disorders, offering hope for patients with previously incurable conditions.

These examples highlight the importance of perseverance and open-mindedness in scientific research. Even when faced with criticism, groundbreaking ideas can ultimately transform medicine and improve human health. Relentless efforts, despite all pitfalls, is the true path in research.

Robert Geoffrey Edwards



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## #PARENTING

# When Should Kids Get First Mobile

When deciding to give child a mobile phone, parents typically weigh many factors.

A new study finds no meaningful association between the age at which children receive their first phones and their well-being, as measured by grades, sleep habits, and depression symptoms.

The study is unusual because it followed a group of more than 250 children for five years, during which most of them acquired their first cell phones. Instead of comparing phone-using kids with those who don't have phones at a single point in time, the scientists tracked the participants' well-being as they transitioned to phone ownership.

"We found that whether or not the children in the study had a mobile phone, and when they had their first mobile phone, did not seem to have meaningful links to their well-being and adjustment outcomes," says lead author, Xiaoran Sun, who was a postdoctoral scholar at Stanford Medicine and Stanford Data Science when the study was conducted.

For parents wondering when to get their child a phone, she says, "There doesn't seem to be a golden rule about waiting until grade or a certain age."

### Early (Or Late) Acquisition

For the study, published in *Child Development*, the researchers followed a group of low-income Latino children in Northern California as part of a larger project aimed to prevent childhood obesity. Little prior research has focused on technology acquisition in non-white or low-income populations, as the researchers say.

The average age at which children received their first phones was 11.6 years old, with phone acquisition climbing steeply between 10.7 and 12.5 years of age. According to the researchers, the results may suggest that each family timed the decision to what they thought was best for their child.

"One possible explanation for these results is that parents are doing a good job matching their decisions to give their kids phones to their child's and family's needs," says senior author, Thomas



Robinson, a professor of Child Health, of Paediatrics, and of Medicine. "These results should be seen as empowering parents to do what they think is right for their family." Early phone acquisition was not linked to problems, he notes, but neither was late phone acquisition, and "if parents want to delay, we didn't see negative effects of that, either."

### What Age Is Best?

When deciding to give a child a mobile phone, parents typically weigh many factors, such as whether the child needs a phone to let parents know their whereabouts, access the internet or maintain

social connections, how much the phone may distract the child from sleep, homework, or other activities, and whether the child is mature enough to handle risks such as exposure to social media, cyber bullying, or violent online content. Prior research about the effects of children's mobile phone ownership had mixed results, with some studies suggesting that phones impair sleep or grades and others showing no effect. Previous studies were limited because most of them collected data at only one or two time points.

In the new study, children were 7 to 11 years old when the study began, and 11 to 15 by the conclusion of the research. Each child and one of their parents participated in assessments at baseline and annually afterward, for a total of five assessments per participant.

At each assessment, the researchers asked parents whether their child owned a mobile phone and whether it was a smartphone. The midpoint in time between the last visit when the child did not own a phone and the first visit when he or she did own a phone was computed as the acquisition age.

At each visit, children completed a standardized questionnaire to assess symptoms of depression. Parents reported the child's most recent school grades and the child's typical bedtime and waking time for school and non-school nights. They also answered a questionnaire about their child's sleepiness during the day.

After each visit, children wore accelerometers on their right hip for a week, and the data was used as an objective measure of sleep onset and sleep duration each night.

The researchers controlled the analysis for several possible confounding factors.

About 25% of children received phones by age 10.7, and 75% by age 12.6. Nearly all children had phones by age 15 years. Among children who owned phones, 99% had smartphones by the end of the study. The timing of children's phone acquisition was similar to what has been recorded in cross-sectional US samples.

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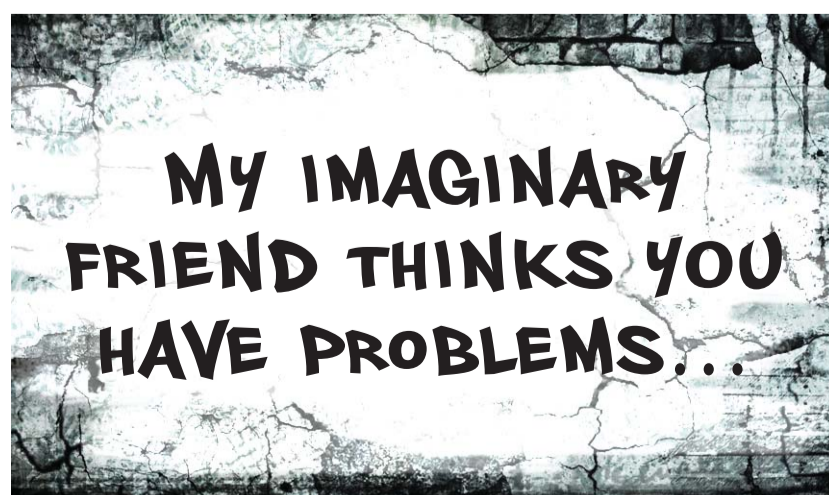
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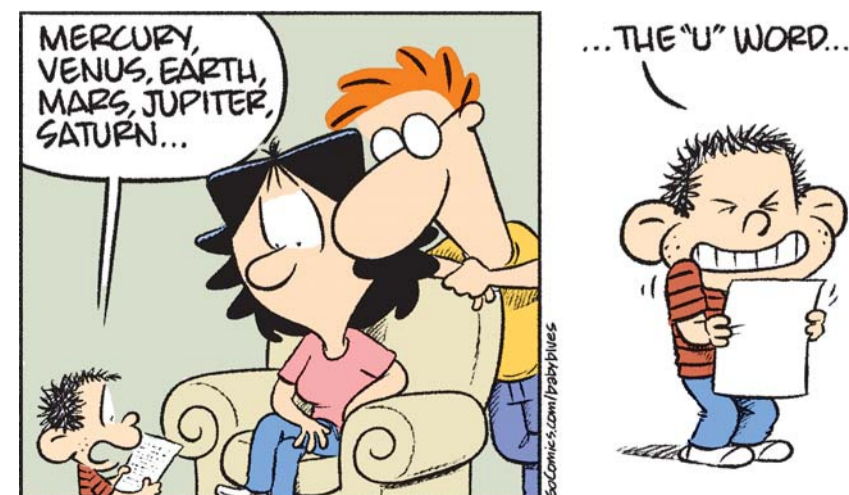
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By Jerry Scott & Jim Borgman

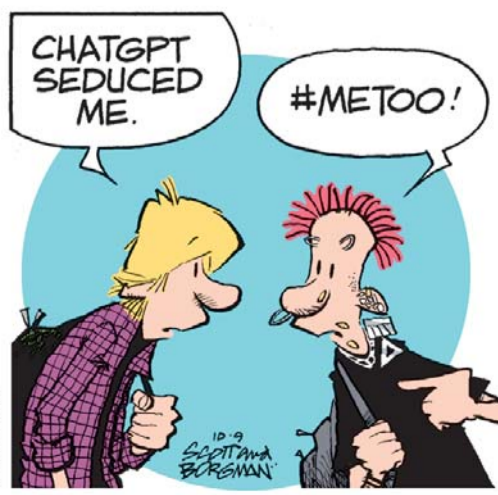
## THE WALL



## BABY BLUES



## ZITS



By Rick Kirkman & Jerry Scott