

You light up my eyes!

A paediatric retinal surgeon and a technician in Karnataka are on a quest to eradicate ROP — the leading cause of preventable childhood blindness in India



What causes ROP?

The eye starts to develop at about 16 weeks of pregnancy. When a baby is born full-term, the retinal blood vessel growth is mostly complete. But if a baby is born prematurely, before these blood vessels have reached the edges of the retina, normal vessel growth may stop. The edges of the retina do not get oxygen and nutrients. As a result, new abnormal vessels begin to grow. These leak and cause retinal scarring.

Of the 37 million people across the globe who are blind, over

12 million are from India

Almost 75%

of these are cases of avoidable blindness

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Born with beautiful large twinkling eyes, Padma Devi's newborn son soon became a favourite in her small village in southern Karnataka. The baby was born underweight and weighed just about 1.6 kg, but the joy of his birth drove concerns about his weight out of his mother's mind. However, two months later, Padma noticed something strange — his light-brown pupil had become white and he stopped responding to movement.

A subsequent visit to a primary health centre gave Padma a devastating shock — the child was declared irreversibly blind. He was suffering from Retinopathy of Prematurity (ROP) — the leading cause of preventable childhood blindness in India.

ROP is a condition that affects up to 47 per cent of the babies born below 2,000 grams in India. Of these, nearly 50 per cent go blind if not treated on time. Interestingly, none of these children are born with ROP. Premature babies actually go on to develop it between one to three months after birth.

Blind spot

India is home to one fourth of the world's blind children, making it the world's blind children's capital

Retinopathy of Prematurity (ROP) affects up to 47% of the babies born below 2,000 grams in India

India has 24 million live births annually, of which 8.4% babies are born below 2,000 grams

Of these 15-20% will go blind if not treated in time

Blindness sets in when the child is 4-6 weeks old and becomes complete before the tenth week

ROP mainly affects premature infants born before 31 weeks of gestation (a full-term pregnancy has a gestation of 38-42 weeks)

Strangely, even as vitamin A deficiency and cerebral problems have received adequate consideration and funding from the government, retinal malfunctions that account for 22 per cent of the childhood blindness cases in India have failed to draw requisite attention from the relevant authorities.

With the Union health ministry yet to realise the seriousness of this problem, the fight against ROP is now being led by two unlikely heroes in Karnataka — Dr Anand Vinokar, a paediatric retinal surgeon armed with a laser machine and a camera the size of a 165-litre fridge on the backseat of his Qualis, and Krishna, a 25-year-old technician who has barely cleared middle school.

For the past two years, Dr Vinokar, head of Narayana Nethralaya Postgraduate Institute of Ophthalmology's department of paediatric retina, and Krishna — a lab technician trained to identify various stages of ROP with nearly 100 per cent accuracy by just looking at images — have been traversing the most backward roads of Karnataka for 13 hours a day, stopping at villages, screening newborns for ROP and surgically treating those who need it on the spot with the laser machine.

gestation (a full-term pregnancy has a gestation of 38-42 weeks)

The smaller a baby is at birth, the more likely it is to develop ROP

ROP was first diagnosed in 1942

ROP is classified in five stages, ranging from mild (stage I) to severe (stage V)

Babies can be treated between stages II and III

ROP occurs when abnormal blood vessels grow and spread throughout the retina. These vessels are fragile and can leak, scarring the retina and causing retinal detachment — the main cause of blindness



However, what's creating waves internationally is their latest project — a Tele-ROP model. This is how it works. Trained technicians visit remote villages, capture retinal images with a special portable digital wide-field camera (capable of seeing 130° of the retina with one single shot). These are then sent via email to a special server. Retinal experts sitting miles away view the images and give their diagnosis within minutes. The technician then informs the mother about ROP and gets the child treated by a Narayana Nethralaya ophthalmic surgeon.

"India has less than 300 retinal surgeons," says Dr Vinokar. "That's why we are training common people to become technicians — those who can just look at images and detect stage one to stage five ROP, negating the requirement for a doctor. It is easy to take a retinal image, so we are training technicians to analyse the images and diagnose. Due to the massive number of babies that need to be screened, and the limited number of trained physicians, there is no other way. At present, babies born in rural areas are either never screened or

screened too late for ROP, which can be prevented by timely diagnosis and appropriate treatment. That's why we are now creating self-sufficient districts — training ophthalmologists from peripheral healthcare centres to treat ROP besides having two

The Tele-ROP model has technicians visiting villages and capturing retinal images on camera, which are then sent via email to experts for diagnosis

technicians per district. Besides Karnataka, a similar project is underway in West Bengal. Till now, they have screened over 1,700 infants around a 250-km radius of the Nethralaya. Over 155 kids from neonatal centres in 18 hospitals in south Karnataka's seven districts have been treated. The ministry has finally taken note

of their efforts and through a public-private partnership decided to incorporate the model in India's National Rural Health Mission. Six more districts in Karnataka are now being added for the out-reach programme, which will ultimately be taken across the country. "A number of Southeast Asian and African countries are facing similar problems with ROP and have a shortage of trained ophthalmologists," Dr Vinokar says. "India has proved that a technician-driven model works. What's worse about ROP is that the retina does not look abnormal from outside till it reaches stage five when the eye looks white in the centre. The blindness is irreversible then. Till now, we have taken 100,000 images. To ensure that data is not lost via transit on the net, we have developed a specialised server where experts log in, see images and give their diagnosis. The software is now also being incorporated in an iPhone so that live images can be transferred via SMS. This will enable the iPhone to allow experts sitting anywhere to access images taken in any part of the country."



The halo effect

A strong and healthy aura boosts confidence, increases immunity against diseases and promotes a sense of well being and happiness

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Kavajit Singh was just 17 years old when he learnt Reiki, the Japanese technique of energy healing. As part of the Reiki programme, he also learnt aura cleansing. Ten years hence, aura cleansing has become an integral part of his daily bathing ritual. "I don't remember ever falling ill since I started practicing aura cleansing," says the Mumbai-based Singh, who now works for a stock broking firm. "Also, my confidence level has been steady over time and my mind is always alert."

A healthy aura helps instill a sense of mental and physical well being, affirms aura-cleansing expert Vanitha Soneji. "The aura body exists two inches outside the physical body, and it protects us from illness and negative thoughts. Any illness first comes in contact with the aura body, and only if the aura is weak can it effectively permeate the constitution." Regular aura cleansing helps prevent illness and increases confidence and concentra-

tion levels, she adds. "A strong aura enables the mind to eliminate negative thoughts and harbour positive ones, promoting happiness in the process," explains Soneji.

Those who have benefited from aura cleansing vouch for its healing power and say it helps in building up on positive energy. Jyoti Budhia, a 38-year-old who was introduced to aura cleansing last year while dealing with a severe illness, says, "It often happens that one walks into a particular place and immediately experiences a feeling of calm, no matter what his state of mind is. Similarly, when you are in the company of certain people, you feel good. It seems unexplainable, but this happens because of the aura a place or a person exudes." Aura cleansing helped Budhia cope with her illness and since then she has been a believer, and has been following the practice regularly.

At Soneji's Mumbai centre, auras are cleansed with the help of arena oils, magnetic pens, crystals and candles. Usually, there are two therapists involved

"When you are in a particular place or in the company of certain people, you feel good. This happens because of the aura a place or a person exudes"

in the process, and it takes about two hours. "Ideally, one should go for the 21-day cleansing programme, but in case one can't manage time for that, a monthly cleansing session would make one feel rejuvenated," says Soneji. "It works like a spa therapy, but comes at a fraction of the cost — Rs 350 per session."

Aura cleansing is easy to practice, doesn't take much time, and can be done at home as well. So, you can pack in a few mixtures of cleansing no matter how hectic your daily schedule. Here's the recipe for the cleansing salt and a low-down of the procedure: Make a mixture

consisting of 1 kg common salt, 250 gm black salt and 250 gm baking soda. Keep it in a glass jar, away from sunlight. This will keep for up to a month. Every day after you bathe, apply the salt all over your body, avoiding the head. Keep it on for two-three minutes and then wash off with warm water. Follow this up with the application of an arena oil on your aura body. Make sure you do not touch your body with the oil, as it is your aura that is supposed to be treated.

But before you embark on your aura-cleansing expedition, make sure you get a professional to guide you through the correct procedure. "One must complete a 21-day cleansing programme under the guidance of an expert before attempting it at home," says Singh. You can also keep a tab on the state of your aura with the help of Kirlian photographs, which reveal the colour of your aura. Auras can have a single colour or a combination of hues. A healthy aura will be gold, blue, violet or green in colour, while a black or grey aura signals an urgent requirement for cleansing.