



DAILY NEWS BULLETIN

LEADING HEALTH, POPULATION AND FAMILY WELFARE STORIES OF THE DAY
Monday 20190819

लेंस रहित फाइबर इंडोस्कोप

सुई के आकार जितना पतला है बिना लेंस वाला नया इंडोस्कोप, पढ़ें पूरी खबर (Dainik Jagran: 20190819)

<https://www.jagran.com/world/america-this-endoscope-without-lens-is-as-thin-as-a-needle-19497015.html>

लेंस रहित फाइबर इंडोस्कोप एक सुई के आकार का है जो बेहद संकरे मार्ग से जाकर अंदर की तस्वीरें उच्च क्वालिटी की दिखाता है।

बर्लिन, एजेंसी। वैज्ञानिकों ने एक नया इंडोस्कोप तैयार किया है, जिसके माध्यम से शरीर में कोशिका से भी छोटी वस्तु की 3डी इमेज देखी जा सकती है। शोधकर्ताओं ने बताया कि यह नया इंडोस्कोप बहुत छोटा और लेंस रहित है। बिना किसी लेंस, विद्युत या यांत्रिकी कंपोनेंट वाले इस इंडोस्कोप की नॉक 200 माइक्रॉन की है। जो मनुष्य के बालों के चौड़ाई के बराबर है।

शोधकर्ताओं ने बताया कि जीवित ऊतकों के भीतर की तस्वीरें सामने लाने वाले इस नये और बेहद पतले इंडोस्कोप से विभिन्न प्रकार के शोध और चिकित्सकीय प्रयोग किए जा सकते हैं। जर्मनी में ड्रेसडेन यूनिवर्सिटी ऑफ टेक्नोलॉजी के जुएरगेन डब्ल्यू कजारस्के ने कहा, 'लेंस रहित फाइबर इंडोस्कोप एक सुई के आकार का है, जो बेहद ही संकरे मार्ग से जाकर अंदर की तस्वीरें उच्च क्वालिटी की दिखाता है।' शोधकर्ताओं के अनुसार नया इंडोस्कोप ऑप्टोजेनेटिक्स के लिए विशेष रूप से बेहद

उपयोगी हो सकता है। ऑप्टोजेनेटिक्स एक जैविक तकनीक है, जिसमें जीवों के न्यूरांस में कोशिकाओं को नियंत्रित करने के लिए प्रकाश का उपयोग किया जाता है।

यह इंडोस्कोप चिकित्सा प्रक्रियाओं के दौरान कोशिकाओं और ऊतकों की निगरानी करने और परीक्षण करने के काम भी आ सकता है। पारंपरिक इंडोस्कोप शरीर के अंदर की तस्वीरें लेने के लिए कैमरा और प्रकाश का उपयोग करते हैं। हाल ही के वर्षों में शोधकर्ताओं ने शरीर के अंदर की तस्वीरें लेने के वैकल्पिक तरीके विकसित किए हैं। जिससे भारी कैमरों और अन्य भारी घटकों की उपयोगिता समाप्त हो गई है। हालांकि, इसके बाद भी नई तकनीक में काफी सारी खामियां रही हैं। जैसे कि तापमान का उतार-चढ़ाव न सहन कर पाना, इंडोस्कोप के फाइबर का मुड़ जाना आदि हैं।

इस तरह बनाया नया इंडोस्कोप : नया इंडोस्कोप बनाने के लिए शोधकर्ताओं ने कोहरेट फाइबर बंडल की नोक पर एक पतली कांच की प्लेट लगाई जो सिर्फ 150 माइक्रान मोटी थी। यह एक प्रकार का ऑप्टिकल फाइबर है, जिसका उपयोग इंडोस्कोपी के कार्यों में किया जाता है। कोहरेड फाइबर बंडल सिर्फ 350 माइक्रॉन चौड़ा होता है और इसमें 10,000 कोर होती हैं। जब फाइबर की केंद्र की कोर चमकती है तो यह एक बीम का उत्सर्जन करती है। कांच की वजह से यह परावर्तित होती है। जिसकी वजह से यह एक वचरुअल गाइड के रूप में काम करने लगती है। इसे ऑप्टिकल ट्रांसफर फंक्शन के रूप में जाना जाता है। इसके बाद यह शरीर के छोटे से छोटे ऑब्जेक्ट का 3डी इमेज बनाता है।

कैंसर

महिलाओं के लिए कैंसर का अलार्म है ऐसी नींद, हो जाएं सावधान (Dainik Jagran: 20190819)

<https://www.jagran.com/world/america-women-with-sleep-apnea-at-increased-risk-of-cancer-says-study-19494077.html>

कहते हैं नींद नहीं आना कई बीमारियों को न्यौता देती है। इसी क्रम में अगर इस तरह की नींद आती है तो सतर्क हो जाएं क्योंकि यह अलार्म है खतरनाक बीमारी का।

लंदन (आइएएनएस)। खर्छटे वाली नींद आना कोई मजाक की बात नहीं खासकर महिलाओं में। ऐसी नींद को स्लीप एप्निया कहते हैं जो नींद के दौरान सांस में अवरोध होने के कारण खर्छटे सी आवाज निकालती है। ऐसी नींद महिलाओं में कैंसर का अलार्म है।

ऐसी नींद होती है स्लीप एप्निया का संकेत

जब नींद के दौरान सांस लेने या श्वसन गतिविधि बाधित होती है तो इसे 'स्लीप एप्निया' कहते हैं। इस बीमारी में नींद के दौरान सांस लेने में बार-बार रुकावट होती है। इसके कुछ कारणों में अधिक वजन, ऊपरी वायुमार्ग का छोटा होना, जीभ का बड़ा आकार और टॉसिल प्रमुख हैं।

महिलाओं में स्लीप एप्निया से कैंसर का खतरा

रिसर्च यूरोपियन डेटाबेस ESADA से एकत्रित किए गए रजिस्ट्री डेटा का अध्ययन करने के बाद इस स्टडी को यूरोपियन रेस्पिरेटरी जर्नल में प्रकाशित किया गया। इसके लिए 20,000 मरीजों पर रिसर्च किया गया था। इसमें से दो फीसद मरीजों का कैंसर डायग्नोसिस भी किया गया था। रिसर्च के अनुसार, स्लीप एप्निया के कारण पुरुषों की तुलना में महिलाओं को अधिक कैंसर का खतरा है।

अध्ययन के अनुसार, विशेष तौर पर पुरुषों में स्लीप एप्निया का संबंध खर्छटे, दिन भर के थकान और हृदय संबंधित रोगों से है। इस विषय पर शोध से एक नया खुलासा हुआ है। इसके अनुसार, विशेषकर स्लीप एप्निया से कैंसर की संभावना बढ़ जाती है।

हिचकी

बार-बार हिचकी आने से हैं परेशान; तो जानें- क्यों होती है समस्या, वैज्ञानिकों ने बताए ये कारण (Dainik Jagran: 20190819)

<https://www.jagran.com/world/america-why-hiccups-occur-scientists-discovered-reasons-19494811.html>

अमेरिकन अकेडमी ऑफ फैमिली फिजिशियन के डॉ. जॉन कुलेन ने कहा कि हिचकी सबको आती है लेकिन फिर भी इसकी बारे में लोगों को स्पष्ट जानकारी नहीं है।

वाशिंगटन, द न्यूयॉर्क टाइम्स। अक्सर खाना खाते या जोर से हंसने के दौरान हमें हिचकी आ ही जाती है। हिचकी आना बहुत आम बात है। इसको लेकर कई तरह की बातें सुनने को मिलती हैं। कुछ कहते हैं कि किसी के याद करने पर हिचकी आती है तो कुछ मानते हैं कि किसी का कुछ चुराकर खाने से हिचकी आती है। क्या वाकई में यही कारण हैं या ये सिर्फ लोगों के बीच फैली भ्रांति है? वैज्ञानिकों की माने तो यह सिर्फ भ्रांति ही है। हिचकी का संबंध किसी के याद करने से नहीं, बल्कि सांस से जुड़ा है।

अमेरिकन अकेडमी ऑफ फैमिली फिजिशियन के डॉ. जॉन कुलेन ने कहा, ' हिचकी सबको आती है लेकिन फिर भी इसकी बारे में लोगों को स्पष्ट जानकारी नहीं है। दरअसल, जिन चीजों को खतरा नहीं माना जाता है, उनपर ज्यादा अध्ययन भी नहीं होता है।'

आखिर क्यों आती है हिचकी ?

पेट व फेफड़े के बीच स्थित डायाफ्राम और पसलियों की मांसपेशी में संकुचन हिचकी आने की प्रमुख वजह है। डायाफ्राम के सिकुड़ने से फेफड़ा तेजी से हवा खींचने लगता है, इसी के चलते व्यक्ति को हिचकी आती है। इसके अलावा हिचकी आने का एक कारण पेट से भी जुड़ा है। खाना खाने या गैस के चलते पेट बहुत ज्यादा भरा हो तो उससे भी हिचकी आती है। वैज्ञानिकों की माने तो पाचन या श्वास नली में अत्यधिक हलचल व गड़बड़ी से व्यक्ति को हिचकी आ सकती है। गर्म या तीखा खाना खाने, जल्दी-जल्दी खाने से भी हिचकी आती है। बहुत जोर से हंसने के चलते भी डायाफ्राम में संकुचन हो जाता है, जिससे हिचकी आ सकती है।

एक मिनट में चार से 60 बार तक आ सकती है हिचकी

आमतौर पर बच्चों को हिचकी ज्यादा आती है। उम्र बढ़ने के साथ हिचकी का आना कम जरूर होता है, लेकिन बंद नहीं होता है। जिस तरह लोगों के छींकने का तरीका अलग होता है, उसी प्रकार सबको हिचकी भी अलग-अलग तरीके से आती है। एक मिनट में व्यक्ति को चार से 60 बार तक हिचकी आ सकती है। आयोवा के रहने वाले चार्ल्स ऑसबोर्न को लगातार 68 वर्ष तक हिचकी आई थी। इसके लिए उनका नाम गिनीज बुक ऑफ वर्ल्ड रिकॉर्ड्स में दर्ज है।

बीमारी का भी हो सकता है संकेत

सामान्यतः हिचकी कुछ मिनट या घंटे में ही खत्म हो जाती है। हालांकि, हिचकी यदि कई दिन या हफ्ते तक जारी रहे तो यह गंभीर समस्या हो सकती है। अमेरिका में हर साल हिचकी से होने वाली परेशानी के कारण चार हजार लोग अस्पताल में भर्ती होते हैं। तनाव, बेचैनी आदि के कारण भी हिचकी

आ सकती है। इसके अलावा निमोनिया, मस्तिष्क व पेट के ट्यूमर, पार्किंसन, डायबिटीज और किडनी की बीमारियों के कारण भी हिचकी आ सकती है।

मां के गर्भ से शुरू हो जाती है हिचकी

व्यक्ति को मां के गर्भ से हिचकी आना शुरू हो जाता है। डॉ. कुलेन ने कहा, 'कई बार अल्ट्रासाउंड के दौरान 17 या 18 हफ्ते के भ्रूण को हिचकी आते देखा जा सकता है। आमतौर में भ्रूण में फेफड़े के विकसित होने की वजह से हिचकी आना शुरू हो जाती है।

हिचकी रोकने में कारगर है घरेलू नुस्खे

पेट के डॉक्टर स्कॉट गबार्ड कहते हैं कि हिचकी का कारण पता हो तो उसका इलाज भी आसान हो जाता। इसके अलावा घरेलू नुस्खे जैसे चीनी या पानी आदि से भी हिचकी रोकी जा सकती है। अगर हिचकी कई घंटों तक नहीं रुके तो डॉक्टर की सलाह लेना जरूरी है।

ब्लड प्रेशर

घटते-बढ़ते ब्लड प्रेशर को इस डाइट से करें कंट्रोल, कई बीमारियों से रहेंगे दूर (Dainik Jagran: 20190819)

<https://www.onlymyhealth.com/perfect-diet-chart-cure-blood-pressure-problems-in-hindi-1368009364>

ब्लड प्रेशर को नियमित करने के लिए स्वस्थ और पोषणयुक्त आहार की बहुत जरूरत है। उच्च रक्तचाप के लिए ऐसा आहार होना चाहिए जिसमें नमक और सोडियम की मात्रा कम हो। ब्लड प्रेशर की समस्या होने से आदमी की मौत भी हो सकती

अगर आपका डाइट प्लान सही नहीं है तो आपको कई स्वास्थ्य समस्याएं हो सकती हैं। ये स्वास्थ्य समस्याएं ही आगे चलकर हृदय रोगों, ब्लड प्रेशर की समस्या, कैंसर, डायबिटीज जैसी बीमारियों का रूप ले लेती हैं। ब्लड प्रेशर को नियमित करने के लिए स्वस्थ और पोषणयुक्त आहार की बहुत

जरूरत है। उच्च रक्तचाप के लिए ऐसा आहार होना चाहिए जिसमें नमक और सोडियम की मात्रा कम हो। ब्लड प्रेशर की समस्या होने से आदमी की मौत भी हो सकती है। रक्तचाप की समस्या दो प्रकार की होती है, उच्च रक्तचाप (High Blood Pressure) और निम्न रक्तचाप (Low Blood Pressure)। उच्च रक्तचाप की समस्या को हाइपरटेंशन भी कहा जाता है। ब्लड का प्रेशर 80/130 होना चाहिए। अगर आप भी उन लोगों में शामिल हैं, जो ब्लड प्रेशर घटने और बढ़ने की समस्या से परेशान रहते हैं तो आइए हम आपको बताते हैं कि ब्लड प्रेशर को नियमित करने के लिए कैसे अपना डाइट चार्ट तैयार करना चाहिए।

ताजे फलों और सब्जियों का सेवन

उच्च रक्तचाप के रोगी को ज्यादा मात्रा में भोजन नहीं करना चाहिए, साथ ही गरिष्ठ भोजन से भी परहेज करना चाहिए। खाने में नियमित रूप से ताजे फलों और सीजनल हरी सब्जियों का सेवन ज्यादा करना चाहिए। लहसुन, प्याज, साबुत अनाज, सोयाबीन आदि का सेवन करने से ब्लड प्रेशर सामान्य रहता है।

सोडियम की कम मात्रा

ब्लड प्रेशर के मरीज के खाने में में पोटेशियम की मात्रा ज्यादा हो और सोडियम की मात्रा कम होनी चाहिए। यदि उच्च रक्तचाप की समस्या है तो नमक का सेवन कम करना चाहिए। साथ ही डेयरी उत्पादों, चीनी, रिफाइंड खाद्य-पदार्थों, तली-भुनी चीजों, कैफीन और जंक फूड से परहेज करना चाहिए।

पानी का अधिक सेवन

ब्लड प्रेशर के मरीज को ज्यादा पानी का सेवन करना चाहिए। दिन में कम से कम 10-12 गिलास पानी अवश्य पीना चाहिए।

ब्लड प्रेशर को नियमित रखने के अन्य उपाय

कम मात्रा में बाजरा, गेहूं का आटा, ज्वार, मूंग साबुत तथा अंकुरित दालों का सेवन करना चाहिए। इससे ब्लड प्रेशर बढ़ता है।

पालक, गोभी, बथुआ जैसी हरी सब्जियों का सेवन करने से ब्लड प्रेशर सामान्य रहता है।

सब्जियों में लौकी, नींबू, तोरई, पुदीना, परवल, सहिजन, कद्दू, टिण्डा, करेला आदि का सेवन करना चाहिए।

अजवायन, मुनक्का व अदरक का सेवन रोगी को फायदा पहुंचाता है।

फलों में मौसमी, अंगूर, अनार, पपीता, सेब, संतरा, अमरूद, अन्नानास आदि सेवन कर सकते हैं।

बादाम बिना मलाई का दूध, छाछ सोयाबीन का तेल, गाय का घी, गुड़, चीनी, शहद, मुरब्बा आदि का सेवन कर सकते हैं।

नियमित और पौष्टिक आहार के अलावा नियमित रूप से व्यायाम और योगा ब्लड प्रेशर को नियमित करने में बहुत मदद करता है। सकारात्मक सोच रखने से ब्लड प्रेशर सामान्य रहता है।

Blood Pressure (Hindustan: 20190819)

http://epaper.livehindustan.com/imageview_200761_71802788_4_1_19-08-2019_i_1_pagezoomsinwindows.php

खुलासा : पहली बार में 63% तक गलत हो सकती है बीपी की जांच

हिन्दुस्तान विशेष

नई दिल्ली | मदन जैड़ा

पहली बार उच्च रक्तचाप (हाई बीपी) की जांच में नतीजे 63 फीसदी तक गलत हो सकते हैं। यह खुलासा इंडियन जर्नल ऑफ मेडिकल रिसर्च की ताजा रिपोर्ट में हुआ है। इसमें बीपी की जांच में पूरी एहतियात बरतने पर जोर दिया गया है।

रिपोर्ट के अनुसार नेशनल फैमिली हेल्थ सर्वे-4 के दौरान प्रशिक्षित स्वास्थ्य कार्यकर्ताओं ने 6.78 लाख लोगों का बीपी मापा। 2015-16 में हुए इस सर्वे के तहत पहली बार जांच में 16.5% लोग बीपी के मरीज पाए गए। जब कुछ अंतराल बाद दूसरी और तीसरी जांच



ये बातें रखें ध्यान

- जांच एक से ज्यादा बार और अलग-अलग दिन कराएं
- चाय-कॉफी पीने या व्यायाम के तुरंत बाद जांच न कराएं
- शारीरिक या मानसिक रूप से कतई उत्तेजित ना हों
- कुर्सी में आराम की मुद्रा में हाथ और पीठ टिकाकर बैठें

कराई तो आंकड़ा घटकर 10.1% ही रह गया। यानी, पहली बार बीपी जांच के नतीजे 63% गलत पाए गए।

रिपोर्ट आंखें खोलने वाली : सर्वे में पहली जांच के आंकड़े इस्तेमाल होते तो देशभर में बीपी के अनुमानित मरीजों का आंकड़ा 4.6 करोड़ हो जाता। हालांकि, यह गड़बड़ी तो नहीं हुई पर रिपोर्ट आंखें

खोलने वाली है क्योंकि कई बार डॉक्टर भी एक बार बीपी की जांच के बाद ही दवाएं खाने की सलाह दे देते हैं।

जागरूकता जरूरी: लोगों में जांच के प्रति जागरूकता की जरूरत है। इस बारे में प्रोफेसर यतीश अग्रवाल कहते हैं कि बीपी जांच सही ढंग से और प्रशिक्षित कार्यकर्ता से ही करानी चाहिए।

<http://onlinepaper.asianage.com/article/detailpage.aspx?id=13600776>

■ Sensors used to compare sweat glucose levels and blood glucose levels in humans

After sleep, tech cos race for sweat data

New Delhi, Aug. 18: Scientists are developing a wearable skin sensor that can detect what is in your sweat.

They hope that monitoring perspiration could bypass the need for more invasive procedures like blood draws, and provide real-time updates on health problems such as dehydration or fatigue.

In the study published in journal *Science Advances* the team described a new sensor design that can be rapidly manufactured using a "roll-to-roll" processing technique that essentially prints the sensors onto a sheet of plastic like words on a newspaper. They used the sensors to monitor the sweat rate,



■ **RESEARCHERS USED sensors to monitor the sweat rate, and the electrolytes and metabolites in sweat, from volunteers who were exercising, and others who were experiencing chemically induced perspiration.**

and the electrolytes and metabolites in sweat, from volunteers who were exercising, and others who were experiencing chemically induced perspiration. "The goal of the project is not just to make the sensors but start to do many subject studies and

see what sweat tells us I always say "decoding" sweat composition," said Ali Javey, a professor of electrical engineering and computer science at UC Berkeley and senior author on the paper. "For that, we need sensors that are reliable,

reproducible, and that we can fabricate to scale so that we can put multiple sensors in different spots of the body and put them on many subjects," said Javey, who also serves as a faculty scientist at Lawrence Berkeley National Laboratory.

The new sensors contain a spiralling microscopic tube or microfluidic, that wicks sweat from the skin. By tracking how fast the sweat moves through the microfluidic, the sensors can report how much a person is sweating or their sweat rate. The microfluidics are also outfitted with chemical sensors that can detect concentrations of electrolytes like potassium and sodium, and metabolites like glucose.

To better understand what sweat can say about the real-time health of the human body, the researchers first placed the sweat sensors on different spots on volunteers' bodies including the forehead, forearm, underarm

and upper back and measured their sweat rates and the sodium and potassium levels in their sweat while they rode on an exercise bike.

They found that local sweat rate could indicate the body's overall liquid loss during exercise, meaning that tracking sweat rate might be a way to give athletes a heads up when they may be pushing themselves too hard.

They also used the sensors to compare sweat glucose levels and blood glucose levels in healthy and diabetic patients, finding that a single sweat glucose measurement cannot necessarily indicate a person's blood glucose level.

— ANI

खांसी

खांसते-खांसते हो चुके हैं परेशान तो इन 7 तरीकों से मिनटों में दूर करें पुरानी खांसी, एक बार जरूर आजमाएं (Dainik Jagran: 20190819)

<https://www.onlymyhealth.com/7-tips-to-get-rid-of-cough-in-hindi-1566105109>

खांसी भी एक ऐसी समस्या है, जो मौसम में बदलाव से आपको दिक्कत दे सकती है। मौसम की जरा सी करवट लोगों को खांसी और जुकाम जैसी समस्याएं दे सकती है। अगर खांसी का समय रहते इलाज न किया जाए तो ये टीबी का रूप ले सकती है।

बदलता मौसम अपने साथ कई बीमारियां लेकर आता है और मानसून के मौसम में खासकर सिरदर्द, जुकाम और खांसी की समस्या आम होती है। इन सामान्य सी दिखने वाली बीमारियों का अगर सही

समय पर उपचार न किया जाए तो ये आपके शरीर में गंभीर समस्या पैदा कर देती है। खांसी भी एक ऐसी समस्या है, जो मौसम में बदलाव से आपको दिक्कत दे सकती है। मौसम की जरा सी करवट लोगों को खांसी और जुकाम जैसी समस्याएं दे सकती है। अगर खांसी का समय रहते इलाज न किया जाए तो ये टीबी का रूप ले सकती है। हालांकि खांसी होने पर ये पता होना जरूरी है कि आपको कैसी खांसी है। सूखी खांसी और बलगम वाली खांसी ज्यादातर लोगों को परेशान करती है।'

खांसी चाहे बड़े को हो या फिर बच्चों को सभी को परेशान कर देती है। ये एक ऐसी समस्या है जो घर के किसी भी सदस्य को होने पर पूरे घर को तकलीफ में डाल देती है। खांसी होने पर इंसान को अपने सभी काम करने में दिक्कत आती है और उसका किसी भी काम में मन नहीं लगता। अगर आप भी बाजार से खांसी का सिरप ले लेकर परेशान हो गए हैं और आपकी खांसी जाने का नाम नहीं ले रही है तो हम आपको इसी समस्या से निजात पाने का बेहद आसान और अचूक उपाय बताने जा रहे हैं, जिसे आजमाकर आप मिनटों में खांसी की समस्या से छुटकारा पा सकते हैं।

खांसी को दूर करने के असरदार उपाय

अगर आप काफी समय से खांसी की समस्या से परेशान हैं तो एक चम्मच शहद लेकर उसे चाट लें। ऐसा करने से आपके शरीर में बनने वाला कफ जल्द ही निकल जाएगा और खांसी से राहत मिलेगी।

इसे भी पढ़ें: हड्डियों से आ रही कट-कट की आवाज तो तुरंत खाना शुरू कर दें ये 3 चीजें, इस बीमारी से रहेंगे हमेशा दूर

अगर आप खांसी की समस्या को जड़ से मिटाने चाहते हैं तो एक चम्मच शहद में आंवले के पाउडर की थोड़ी मात्रा मिलाएं और सुबह-शाम उसका उसका सेवन करें। नियमित रूप से ऐसा करने से खांसी की समस्या से राहत मिलेगी।

दवाईयां खाने के बाद भी अगर खांसी कम नहीं हो रही है और खांसते-खांसते आपके सीने में दर्द हो गया है, तो आप सरसों तेल को गर्म करके उसमें थोड़ा कपूर मिला कर अच्छी तरह से छाती और पीठ की मालिश करें। दिन में तीन बार तक ऐसा करने से खांसी की समस्या और दर्द से छुटकारा मिलता है।

अगर आप जल्द से जल्द खांसी को ठीक करना चाहते हैं तो एक चम्मच हल्दी पाउडर को दूध में मिलाकर पीएं। ऐसा करने से खांसी की समस्या से निजात मिलती है।

अगर आपको सूखी खांसी है तो एक बतासे में थोड़ा सा लौंग का तेल लगाकर खा लें। ऐसा करने से आपको सूखी खांसी में काफी राहत मिलेगी।

इसके अलावा आप सूखी खांसी से राहत पाने के लिए आप मुंह में सौंफ रखकर चबाएं। नियमित रूप से ऐसा करने से खांसी से छुटकारा मिलता है।

खांसी से छुटकारा पाने का सबसे अच्छा तरीका है गाय के घी को लेकर उसे छाती पर मलना। दिन में दो बार ऐसा करने से भी खांसी में जल्दी आराम मिलता है।

त्वचा में दर्द

वैज्ञानिकों ने खोजा त्वचा में दर्द महसूस करवाने वाला अंग, अब बनेगी दर्द की नई दवाएं (Dainik Bhaskar: 20190819)

https://www.bhaskar.com/interesting/news/newly-discovered-organ-may-be-lurking-under-your-skin-01620019.html?ref=hf&utm_expid=.YYfy3_SZRPiFZGHcA1W9Bw.0&utm_referrer=https%3A%2F%2Fwww.bhaskar.com%2F

ग्लिया सेल्स और कई लेयर्स वाले प्रोट्यूशियंस से बना है ऑर्गन।

स्वीडिश शोधकर्ताओं के शोध में खुलासा, ग्लिया सेल्स और कई लेयर्स वाले प्रोट्यूशियंस से बना है अंग

यह अंग दर्द के प्रति संवेदनशील नर्व सेल्स के आस-पास होता है और त्वचा की ऊपरी परत में फैलता है वॉशिंगटन. स्वीडिश शोधकर्ताओं ने एक ऐसा संवेदी अंग खोजा है जो त्वचा में कोई भी तकलीफ होने पर तुरंत दर्द का एहसास करवाता है। शोधकर्ताओं ने जिस संवेदी अंग की खोज की है, वह असल में ग्लिया सेल्स और कई लेयर्स वाले प्रोट्यूशियंस से मिले सेल्स हैं जो त्वचा में एक ऑर्गन बनाते हैं। यह अंग दर्द के प्रति संवेदनशील नर्व सेल्स के आस-पास होता है और अपनी कई लेयर्स के कारण त्वचा की ऊपरी परत में फैल जाता है जिस कारण दर्द महसूस होता है।

यह खोज दर्द को लेकर लंबे समय से बनी पहली के बारे में नई चीजें पता करने में मददगार रहेगी। यह खोज नई दर्द निवारक दवाओं के विकास में अहम रहेगी। मालूम हो कि आज के समय में हर पांच में से एक व्यक्ति शरीर के दर्द से परेशान रहता है और इसलिए नई पेनकिलर दवाओं की बेहद जरूरत है।

खोजा गया अंग पुराने से पुराने दर्द की वजह है

स्टॉकहोम के कारोलिंस्का इंस्टीट्यूट के प्रोफेसर पैट्रिक अर्नफोर्स के मुताबिक, हमारे लिए सबसे बड़ा सवाल अब यह है कि क्या कई सेल्स से मिलकर बना यह अंग ही असल में पुराने से पुराने दर्द की वजह है। यह अंग एक तरह के श्वान सेल्स से मिलकर बना है जो नर्व सेल्स यानी तंत्रिका कोशिकाओं के आस-पास रहते हैं।

पैट्रिक ने बताया कि उनके अध्ययन से पता चलता है कि दर्द के प्रति संवेदनशीलता केवल त्वचा के तंत्रिका तंतुओं में ही नहीं होती है। दर्द के लिए नया खोजा गया ऑर्गन भी जिम्मेदार होता है। यह रिसर्च शारीरिक संवेदना के कोशिकीय तंत्रों के बारे में हमारी समझ को बदल देती है। नई समझ के साथ अब और बेहतर दर्दनिवारक दवाओं का विकास किया जा सकता है। इस अध्ययन के नतीजे साइंस जर्नल में छपे हैं।

ऑक्टोपस जैसा आकार है

ऑक्टोपस की शेष वाले ये सेल्स जब सक्रिय होते हैं तो नसों में एक तरह का इलेक्ट्रिकल फोर्स बनती है, जिसकी प्रतिक्रिया होने पर दर्द महसूस होता है। इस ऑर्गन को बनाने वाली कोशिकाओं को बाहर से नियंत्रित किया जा सकता है। इससे पता चलता है कि ये किस तरह किसी चुभन और दबाव का एहसास करती हैं। हमने शोध में दर्द का पता लगाने वाले ऑर्गन को ब्लॉक कर दिया और जाना कि इससे दर्द की संवेदना में काफी हद तक कमी महसूस की गई।

Air Pollution

Delhi breathes cleanest air of the year so far (The Hindu: 20190819)

<https://www.thehindu.com/news/cities/Delhi/city-breathes-cleanest-air-of-the-year-so-far/article29129084.ece>

Monsoon mayhem: A flock of pigeons is seen flying near the Jawahar Lal Nehru Stadium in New Delhi on Friday, July 16, 2019. Delhiites on August 19 breathed the cleanest air of the year so far after receiving several spells of rain over the weekend.

Delhi records AQI of 47; several spells of heavy rain help bring down temperature

Delhiites on Sunday breathed the cleanest air of the year so far.

According to the Central Pollution Control Board, the Air Quality Index was recorded at 47, which falls in the 'good' category.

Rain received

The Capital received several spells of rainfall over the weekend with the Safdarjung Observatory recording 45.7 mm of rain in a 24-hour period ending at 8.30 a.m. on Sunday; and then receiving 2 mm of rain during the day. The rain helped bring down the maximum temperature to 29.7 degrees Celsius, four degrees below the average for this time of the year.

The minimum temperature was 24.8 degrees Celsius, two degrees below the season's average. Weather stations at Palam, Lodhi Road, Ridge and Ayanagar received 11.4 mm, 49.9 mm, 65.8 mm and 20.8 mm respectively over a 24-hour period ending at 8.30 a.m.

Light rain expected

The weatherman has forecast a generally cloudy sky with chance of very light rain or thundershowers on Monday. The maximum and minimum temperatures will be around 32 degrees Celsius and 26 degrees Celsius, said the Met Department.

Hysterectomies

Doctors' federation pushes to check hysterectomy rates (The Hindu: 20190819)

<https://www.thehindu.com/news/national/other-states/doctors-federation-pushes-to-check-hysterectomy-rates/article29128679.ece>

To sensitise members to treatments other than surgery

The high rate of hysterectomies in Beed district has put the medical fraternity in a spot for carrying out unwanted procedures. The Federation of Obstetric & Gynaecological Societies of India (FOGSI), a body of over 40,000 doctors from across the country, has now decided to sensitise its members and reach out to the community and the government.

Through its 'save the uterus' campaign, FOGSI is reaching out to all members and talking about how a hysterectomy can be avoided. "There are so many new medical treatments and other surgeries that can be opted for instead of a hysterectomy. We are reaching out to the

doctors and sensitising them about these procedures and treatments,” Dr. Kalyan Barmade, head of FOGSI’s public awareness committee, said.

“Problems like abnormal bleeding are extremely common and there are many ways to treat it. We are simply spreading awareness about what alternate treatments can be offered,” he said.

The Beed district in drought-stricken Marathwada came into focus in May after media reports highlighted that a large number of women, especially those who migrated for sugarcane-cutting work, have had their uterus removed. Data collected by the government showed that 4,605 hysterectomies were carried out in Beed in a span of three years in 99 private hospitals.

Activists have alleged that the rate of hysterectomies in Beed is 14 times higher than other parts of the State or the country.

A seven-member committee appointed by the government is currently investigating the matter and will submit a report this month. Of the 99 hospitals, 11 hospitals have carried out most of the procedures.

According to Dr. Barmade, more than six seminars have been conducted in Beed, Osmanabad, Latur, Ambejogai and other areas over the last few months. “We have also extended our campaign to others parts of the country like Haryana, Rajasthan, Uttar Pradesh and Gujarat where the rate of hysterectomies are said to be high,” he said.

The first step is to sensitise the doctors and then reach out to the community members, he said. “Lastly, we will submit a memorandum to the government because it plays a key role as well.”

Tuberculosis

Taking on TB: On new anti-tuberculosis drug (The Hindu: 20190819)

<https://www.thehindu.com/opinion/editorial/taking-on-tb/article29127571.ece>

Keeping the prices of the new drug low is essential for increased treatment uptake

The anti-tuberculosis drug pretomanid recently approved by the U.S. Food and Drug Administration will be a game changer for treating people with extensively drug-resistant TB (XDR-TB) and those who do not tolerate or respond to now available multidrug-resistant TB (MDR-TB) drugs. That pretomanid is only the third drug in the last 40 years to get FDA approval highlights the scarcity of new drugs to treat TB bacteria that are rapidly developing

resistance against most available drugs. The all-oral, three-drug regimen of bedaquiline, pretomanid, and linezolid (BPaL) had a 90% cure rate in a phase III trial in South Africa involving 109 participants. In contrast, the current treatment success rate for XDR-TB and MDR-TB is about 34% and 55%, respectively. Importantly, the regimen was found to be safe and effective in curing TB in people living with HIV. The safety and efficacy were tested in 1,168 patients in 19 clinical trials in 14 countries. Unlike 18-24 months needed to treat highly-resistant TB using nearly 20 drugs, the BPaL regimen took just six months, was better tolerated and more potent in clearing the bacteria. The shorter duration is more likely to increase adherence to therapy and improve treatment outcomes. According to the World Health Organisation, in 2017, there were an estimated 4.5 lakh people across the world with MDR-TB, of which India accounted for 24%, and about 37,500 with XDR-TB. With only a low percentage of MDR-TB cases being treated, the actual number of people who do not tolerate or respond to available MDR-TB drugs and so will be eligible to receive the BPaL regimen is unknown. Though the total number of people who will require the new drug may not be high, these are people who have very little alternative treatment options that are safe and efficacious. Also, the number of those who would need a pretomanid-based regimen is increasing due to rising drug resistance.

While the availability of a potent drug is welcome news, it remains to be seen if it would be made affordable, particularly in the developing countries where the burden of XDR-TB and MDR-TB is the highest. TB Alliance, a New York-based international NGO, which developed and tested the drug, has already signed an exclusive licensing agreement with a generic-drug manufacturer for high-income markets. Unlike in the case of bedaquiline, where its prohibitive cost has severely restricted access especially in the developing countries, pretomanid might become affordable. In line with the TB Alliance's commitment to affordability and sustainable access, the drug will be licensed to multiple manufacturers in about 140 low- and middle-income countries, including India. Making the drug affordable to those with extreme form of drug resistance will be highly commendable and a desperately needed model to be followed. After all, there is a compulsion to keep the prices low and increase treatment uptake to stop the spread of highly drug-resistant TB bacteria. Studies have shown an increase in the number of new patients who are directly infected with drug-resistant bacteria.

Drug Addiction

Anti-drug panels to give reward for info (The Tribune: 20190819)

<https://www.tribuneindia.com/news/punjab/anti-drug-panels-to-give-reward-for-info/819458.html>

The anti-drug committees, which are so far working successfully in some villages falling in Gidderbaha Assembly segment here, have now gone a step further to strengthen their efforts in curbing the drug menace.

For instance, the anti-drug committee of Gurusar village has announced to give money to those giving information about drugs.

Ranjit Singh, founder member of the committee, Gurusar village, said “We have announced to give cash reward of Rs 500 if the tip-off given by an informer leads to seizure of narcotic, psychotropic and controlled substances. This is just to involve maximum number of villagers and get authentic information.”

He further said the cash reward could be increased if the information led to a big seizure.

“Two drug peddlers from our village today gave in writing that they will not sell narcotics in future. It happened just because of our committee,” he added.

Notably, the anti-drug committees have nabbed nearly 25 people with drugs in the last about two months in Gidderbaha Assembly segment. Besides, some addicts have been admitted to the de-addiction centres as well.

Cell phones not allowed in police meet

The district police on Saturday held a meeting with some members of the anti-drug committees at the DSP office in Gidderbaha but did not allow them to take cell phones inside. “We are working for the welfare of the society, just assisting the police. However, we were told to first put our phones outside in the custody of a constable. It is surprising as the cops are treating us like suspects,” said a member of a committee.

Healthcare

Shortage of specialists ails healthcare in state (The Tribune: 20190819)

<https://www.tribuneindia.com/news/punjab/shortage-of-specialists-ails-healthcare-in-state/819461.html>

Only 8 posts filled against 48, applications re-invited

The public healthcare system has been hit by the shortage of super-specialist doctors. The state government has failed to attract super-specialist doctors to the government sector as it could hire only eight super-specialists against 48 advertised posts.

The said posts were advertised under direct quota recruitment at government medical colleges in the state in February. Though government job in most of the department is considered safe and stable, the situation is otherwise in the medical sector.

Following poor response, the authorities have now decided to re-invite applications for the said posts. Moreover, the shortage of super-specialist doctors has delayed the opening of the already built super-specialist blocks worth Rs 150 crore each at GMC, Patiala and Amritsar.

Doctors said there was a huge pay disparity in government and private sector which was a major reason for them not to join the government sector. At a time when private hospitals are offering a handsome salary, super specialists in the government sector are being paid just around Rs 1.5 lakh.

Meanwhile, in the private sector, they get around Rs 3-4 lakh per month, depending upon their specialisation.

Another reason that doctors stay away from the government is alleged harassment, whereby, medicos are made to carry out non-medical work. A super-specialist doctor working at GMC Patiala said, "In the government sector, doctors are made to do clerical work. The clerical work and VIP duties always put an unnecessary burden on the medicos and should be done away with."

The government has been paying highest pay scale to the entry-level post of Assistant Professor. However, experts said the government should either pay work-based incentives or should hire super specialists on contract basis to attract doctors in the government sector.

Director, Research and Medical Education, Dr Avnish Kumar said, "We could not find suitable candidates for the post. Therefore, we have re-invited applications for the post. In other states, there are super-specialist doctors working on a similar pay scale."

Pay disparity, workload to blame

The state government has failed to attract super-specialist doctors to the government sector as it could hire only eight super-specialists against 48 advertised posts

Doctors say there is a huge pay disparity in government and private sector, which is the major reason for them not to join the government sector

Another reason is the alleged harassment whereby medicos are made to carry out non-medical work

The shortage of super-specialist doctors has delayed the opening of the already built super-specialist blocks worth Rs 150 crore each at GMC, Patiala and Amritsar

Population

Population not booming, but in slowdown mode (The Tribune: 20190819)

<https://www.tribuneindia.com/news/nation/population-not-booming-but-in-slowdown-mode/819350.html>

Although Prime Minister Narendra Modi spoke of the need for smaller families in his Independence Day address, Economic Survey 2018-2019 warned the government of something exactly the opposite – the need to brace for sharper population slowdown.

“India has entered the next stage of demographic transition with population growth set to slow markedly in the next two decades along with a significant increase in the share of working age population which is the so-called demographic dividend phase,” the Survey said.

The Survey used demographic projections to conclude that India needs to start preparing for a stage where more and more states will see falling total fertility rates (TFR) after achieving replacement levels and thus see a transition to ageing societies.

“Southern states, Himachal Pradesh, Punjab, West Bengal, and Maharashtra are already quite advanced in the demographic transition with their total fertility rate well below replacement level already; more than 10 per cent of the population above the age of 59, at most one third of the population below the age of 20,” said the Survey.

Bihar, UP, Chhattisgarh, Jharkhand, Rajasthan and Madhya Pradesh are the only major states still at an early stage of demographic transition with high TFRs ranging between 2.5 and 3.1 and these could well be the states the PM had in mind when he flagged smaller families.

But in the overall picture, population control was not the top concern of the Economic Survey which actually showed that population growth rate in India has been slowing in the recent decades and fell from the annual growth rate of 2.5 per cent during 1971 to 1981 to an estimated 1.3 per cent as of 2011-2016.

“All major states have witnessed marked deceleration in population growth during this period and the slowdown in states with historically high population growth is noteworthy. Population as of now is growing at only 1 per cent in southern states, West Bengal, Punjab, Maharashtra, Odisha, Assam and Himachal. A key driver in this trend has been a steady decline in India’s total fertility rate since the mid-1980s,” notes the Survey.

The takeaway from the Survey was not the need for population control at current rate of population decline but a need for India to prepare to meet the challenges of an ageing society.

Population: Lawmakers need to check crossing line (The Tribune: 20190819)

<https://www.tribuneindia.com/news/nation/population-lawmakers-need-to-check-crossing-line/819349.html>

Prime Minister Narendra Modi has flagged the issue of the country’s march in the sphere of population stabilisation and the need to address the challenge brought to the fore, an issue that has for long remained outside public discourse.

The last time the matter figured was in a Lok Sabha discussion on population stabilisation on August 4, 2010, in which members across the political spectrum took part in the debate. Interestingly, in his opening remarks the then Health and Family Welfare Minister, Ghulam Nabi Azad, underscored the issue came up for discussion after 33 years.

Ever since the infamous ‘forced sterilisations’ during the 1975-77 Emergency when the government pursued with vigour family planning programme, the issue remained in the realm which successive governments preferred not to talk about.

So much so, sensing how the topic touched a raw nerve, the Morarji Desai-led Janata Party government rechristened the controlling ministry as Ministry of Family Welfare to erase bitter memories of erstwhile Ministry of Family Planning. In other words, the stigma around it made the subject toxic if not radioactive for politicians to approach it.

Based on what was last said in the House in 2010 by members, there appears to be a broad consensus among parties that the country right from those governing at the Centre to the

panchayats on the need to come up with innovative ideas and incentivise people to adopt smaller families.

Azad then said even the mid-term targets to bring down Total Fertility Ratio to replacement level by 2010 – envisaged in the National Population Policy (NPP) in 2000 — was behind schedule. Yet, there is a hope since across all regions, 14 states moved ahead on the path without any law, martial law, coercion, threat and the question to look is why states lagging behind cannot emulate. What was required is change in the mindset.

The NPP long-term objective is to achieve stable population by 2045 at a level consistent with the requirements of sustainable economic growth, social development and environmental protection. Even in 1953, the Family Planning Research and Programme Committee underscored “that family planning programmes should not be conceived of in the narrow sense of birth control or merely spacing of birth of children but to promote, as far as possible, the growth of the family as a unit or society...from the social, economic and cultural points of view.”

In 1978, then Punjab MP Sat Paul Mittal created an NGO, Indian Association of Parliamentarians on Population and Development, which continues to do work in the field to facilitate the role of elected representatives in resolving the problems of population and development. In 2006, Parliamentary Forum on Population and Public Health was set up which among other things was to have focussed discussions on strategies relating to population stabilisation.

So over the years, lawmakers have been conscious of the problem and the challenges. The need at best is to refocus energies while being mindful of approach of overzealous authorities.

E-cigarette

Govt mulls options to enforce e-cigarette ban (The Tribune: 20190819)

<https://www.tribuneindia.com/news/nation/govt-mulls-options-to-enforce-e-cigarette-ban/819351.html>

The government is mulling options, like bringing an ordinance to enforce a ban on the manufacture, sale and import of ENDS devices, including e-cigarettes, if it fails to get a

reprieve from the Delhi High Court, which had earlier stayed its order to ban such products, sources said.

Banning such alternative smoking devices like e-cigarettes, heat-not-burn devices, vape and e-nicotine flavoured hookah, among others, is one of the priorities of the Health Ministry as part of the first 100 days agenda of the second term of the Modi government.

More than 75 days having passed, the Union Health Ministry has swung into action wanting to implement the ban on the manufacture, sale, distribution and import of Electronic Nicotine Delivery Systems (ENDS).

“The ministry is exploring various options, including bringing an ordinance to enforce a ban on the manufacture, sale and import of ENDS devices,” sources said. The ministry is also learnt to have sought legal opinion on the issue. If the government brings an ordinance, it will have to replace it with a Bill in the next session of Parliament. Once Parliament approves the Bill, the proposed ban on such products will get legal backing.

The Central Drugs Standards Control Organisation (CDSCO) had written to state drug controllers, saying they should not allow sale, online sale, manufacture, distribution, trade, import or advertisement of ENDS.

A single-Judge Bench of the Delhi High Court, in March this year, had granted an interim stay on the Centre’s circular, banning the sale and manufacture of ENDS, saying as the products were not “drugs”, the authorities did not have the jurisdiction to issue such a direction.

The Centre appealed against the order before a Division Bench of the High Court, which dismissed the appeal against the interim stay, further directing the government to approach the single-Judge Bench with its plea, the sources said. — PTI

Plastic Waste

We must switch to eco-friendly packaging (Hindustan Times: 20190819)

<http://paper.hindustantimes.com/epaper/viewer.aspx>

During a recent visit to Bengaluru, I ordered ten ‘Rava (Sooji) Idlis’ from one of my favourite restaurants there through an online food delivery platform. I expected the ten idlis to be packed, as usual, in a banana leaf with an outer covering of butter paper with similar arrangement for the chutney. But what I saw made me feel really guilty about having ordered the food online. Each idli with chutney and subzi came in a separate plastic tray with a plastic

lid. We were five people wanting to eat two idlis each and we had ten plastic trays and after we ate, we had to pick up a huge trash bag to put the plastic containers.

There is a need to consciously bring down the consumption of single-use plastic in every sector.

A niece who works in a software company in Bengaluru, , told me that most of her colleagues have now stopped bringing food from home. They order breakfast soon after they arrive at the office and then lunch and snacks in the evening, all adding up to a mountain of plastic debris in the office waste bin! Similarly, earlier , students sharing a house or working men and women who did not like cooking, got food through steel 'tiffin carriers', but that again has now become a thing of the past , with everyone preferring to order different food online.

The e-commerce food platforms have really made it easy to order and get food , whether at the workplace or at home and it has also generated employment opportunities for many, but there is an urgent need to put stop to their use of single-use plastic containers for delivering food. Or else this will become an even more bigger problem than the ubiquitous plastic carry bags. According to rough estimates, the e-commerce platforms are generating about 22,000 metric tones of plastic waste a month.

In fact during that visit to Bengaluru, I went to a local market to pick up some disposable plates and bowls for a party these are traditionally made from leaves of Flame of the Forest, but I was surprised to find a wide variety of biodegradable tableware and food packing material made from plant fibres and agri-waste originating from sugar cane, banana , wheat and bamboo. So it's not as if alternatives to plastic are not available. What is needed is a push in that direction and this has to come from the government as well as the consumers.

Following Prime Minister Narendra Modi's call, on Independence Day, to shun single -use plastics, particularly plastic carry bags, environment minister Prakash Javadekar has said that his ministry would launch a massive campaign in this regard and hold a series of meetings with all stakeholders to make India free of single use plastic. I do hope that he will call e-commerce food platforms too on the use of natural , biodegradable alternatives to plastic food containers. In fact the government should give adequate incentives for the use of such natural products and ensure that plastic packaging is completely eliminated. As consumers, we also need to play our part and shun restaurants and food delivery platforms that use plastic containers and patronize those who use natural alternatives.

The environment ministry should also look at all sectors that generate plastic waste and ensure that they put stop to such usage. For example, the small plastic disposable containers for shampoo , conditioner and moisturizer used by the hotel industry, these could be replaced with large containers fixed to the wall.

Similarly, instead of keeping plastic water bottles in rooms, the hotel industry should be asked to use glass bottles. In short, there is need to consciously bring down the consumption of single-use plastic in every sector.

Telling Numbers: How plastic pollutes, how much waste the states generate (The Indian Express: 20190819)

<https://indianexpress.com/article/explained/how-plastic-pollutes-how-much-waste-the-states-generate-5915706/>

Worldwide, 75 per cent of all plastic produced is waste, and 87 per cent of this is leaked into the environment.

Over one-third of plastic waste ends up in nature, especially water, which is the largest source of plastic ingestion according to the report.

In his Independence Day speech, Prime Minister Narendra Modi called for freeing India from “single-use plastic”. The environmental harm caused by plastic has been the subject of international research and government reports over the years.

Worldwide, 75 per cent of all plastic produced is waste, and 87 per cent of this is leaked into the environment. A study by the University of Newcastle, Australia, and published by the World Wildlife Foundation this year concluded that an average person may be ingesting 5 grams of plastic every week. Over one-third of plastic waste ends up in nature, especially water, which is the largest source of plastic ingestion according to the report. India ranks number three in terms of plastic fibres found in a sample of tap water – 82.4 per cent of tap water sampled in India contained over four plastic fibres per 500 ml, the study found.

PLASTIC GENERATED IN INDIAN STATES

State	Plastic waste generation Tonnes per annum	Manufacturing/recycling units	
		Registered	Unregistered
UP	2.06 lakh	133	16
Gujarat	2.69 lakh	882	0
MP	0.61 lakh	71	20
Punjab	0.54 lakh	144	246
Nagaland	0.14 lakh	6	-
Odisha	0.12 lakh	20	-

Source: Central Pollution Control Board, 2017-18

In India, the last Central Pollution Control Board (CPCB) report that assessed adherence to the Plastic Waste Management Rules was published for 2017-18. The Rules were amended in 2018. As per the 2017-18 report, only 14 states and UTs had submitted their annual reports to the CPCB. Of these 14, Uttar Pradesh generated 2.06 lakh TPA (tonnes per annum) plastic

waste and had 16 unregistered manufacturing/recycling units. Gujarat followed with 2.6 lakh TPA of plastic waste generated and zero unregistered manufacturing/recycling units.

Neonatal Mortality Rate

In Nashik, colour-coded bedsheets are protecting newborns (The Indian Express: 20190819)

<https://indianexpress.com/article/lifestyle/health/in-nashik-colour-coded-bedsheets-are-protecting-newborns-5915625/>

The Neonatal Mortality Rate (NMR) declined from 24 per 1,000 live births in 2008 to 13 in SRS 2017, and the state comes a close third after Kerala and Tamil Nadu.

Newborns being provided 'kangaroo' care (chest-to-chest with parents). (SNCU)

If it's Monday, the colour code for bedsheets at Nashik civil hospital's special newborn care unit (SNCU) is yellow, if it's Tuesday, the sheets are pink, and so on for each day of the week. This simple measure ensures that the bedsheets have been washed and sterilised by autoclave. Similarly, there are separate mops and buckets for each cubicle. A motivated staff also checks whether the surfaces of warmers have been cleaned.

Implementation of such infection control measures can be complex, but with simple practical steps, as well as dedication and training, Maharashtra's health department is moving ahead to reach its goal of bringing down neonatal mortality rate to single digits. According to the Sample Registration System (SRS) data in 2017, in Maharashtra, the Infant Mortality rate (IMR) has reduced to 19 per 1,000 live births from 33 in 2008. The Neonatal Mortality Rate (NMR) declined from 24 per 1,000 live births in 2008 to 13 in SRS 2017, and the state comes a close third after Kerala and Tamil Nadu.

Maharashtra's efforts are also in keeping with Every Newborn Action Plan launched at the World Health Assembly in 2014 led by the World Health Organisation and UNICEF to reduce neonatal mortality. Dr Archana Patil, in charge of the state family planning bureau headquartered in Pune and Additional Director of Health, Maharashtra said that a strict watch on hygiene measures has helped bring down the mortality rate of babies across the SNCUs in the state (see box). Mentoring visits by expert paediatricians, weekly death audits at each of the state's SNCUs have started showing results. For instance, the mortality rate at a single SNCU at Nashik civil hospital was as high as 15 per cent when 55 extremely low birth weight infants died out of 346 admissions. Dr Dinesh Thakur, in charge of Nashik SNCU,

said that they still had 250-300 neonates being admitted every month but the mortality rate is less than 8 per cent.

Just like the Nashik SNCU, there are a total of 37 SNCUs for sick neonates set up at 20 District/Civil Hospitals, 10 Women Hospitals and 7 Sub-Districts Hospitals in the state. Sick neonates are also referred from outside hospital. These are specialised newborn and sick childcare units at district hospitals with specialised equipment. These units have a minimum of 12 to 16 beds with a staff of three medical officers, eight nurses, and four support staff to provide round the clock services for a newborn or child requiring special care.

Another 18 New Born Stabilisation Unit have also been set up even as the state plans to add another 18 SNCUs and 59 Continuous Positive Airway Pressure machines, which address sleep disorders.

Alzheimer's disease

Alzheimer's: Death of key brain cells causes daytime sleepiness (Medical News Today: 20190819)

<https://www.medicalnewstoday.com/articles/326073.php>

Extreme daytime sleepiness is often a top symptom of Alzheimer's disease but what, exactly, causes it? New research finally brings us an answer.

A specific type of protein may cause daytime sleepiness in people with Alzheimer's, according to a recent study.

Many people with Alzheimer's disease have a tendency to sleep a lot during the day, even when they have had a full night's sleep.

Based on links between excessive sleepiness and neurodegenerative conditions, researchers are speculating that looking at daytime napping patterns could help predict the development of Alzheimer's.

But what remains unclear is why, exactly, people with this condition experience the need to sleep so often.

A new study, conducted by researchers at the University of California, San Francisco (UCSF) and other institutions, shows that people with Alzheimer's disease experience major brain cell loss in regions of the brain tasked with keeping us awake.

The findings, which appear in the journal *Alzheimer's & Dementia*, also suggest that an overaccumulation of tau protein triggers these brain changes.

In Alzheimer's disease, tau proteins form tangles that disrupt communication between neurons (brain cells) and impact cell health.

"Our work shows definitive evidence that the brain areas promoting wakefulness degenerate due to accumulation of tau — not amyloid protein [another protein that can become toxic in Alzheimer's disease] — from the very earliest stages of the disease," explains senior author Dr. Lea Grinberg.

Tau: 'a direct driver of cognitive decline'?

In the study, Dr. Grinberg and the team analyzed the brains of 13 deceased people who had Alzheimer's disease, as well as those of seven deceased individuals who had not experienced clinical neurodegeneration. The researchers obtained these samples from UCSF's Neurodegenerative Disease Brain Bank.

The team found that, in comparison with healthy brains, those affected by Alzheimer's disease had a high level of tau across three regions that are key to staying awake, namely the locus coeruleus, the lateral hypothalamic area, and the tuberomammillary nucleus. Not only this, but these regions had actually lost 75% of their neurons.

"It's remarkable because it's not just a single brain nucleus that's degenerating, but the whole wakefulness-promoting network," notes the study's lead author, Jun Oh.

"Crucially, this means that the brain has no way to compensate because all of these functionally related cell types are being destroyed at the same time," Oh explains.

For further clarification, the researchers went on to conduct a postmortem analysis of brain samples from seven people who had progressive supranuclear palsy and corticobasal disease. These are two forms of dementia that are characterized specifically by the overaccumulation of tau protein.

Blood test can identify Alzheimer's 2 decades before symptoms

An experimental blood test could diagnose Alzheimer's a long time before symptom onset, researchers claim.

In these samples, the scientists did not find the same loss of neurons in areas connected with states of wakefulness, which suggests that this destructive loss may only occur in Alzheimer's disease.

"It seems that the wakefulness-promoting network is particularly vulnerable in Alzheimer's disease. Understanding why this is the case is something we need to follow up in future research," says Oh.

Previous evidence uncovered by Dr. Grinberg and colleagues also suggests that tau protein may have a direct impact on brain degeneration in Alzheimer's disease. In that study, the team found that people who died with high levels of tau in their brain stem — which corresponds to early stage Alzheimer's disease — had begun to develop mood changes and sleep problems.

"Our new evidence for tau-linked degeneration of the brain's wakefulness centers provides a compelling neurobiological explanation for those findings," says Dr. Grinberg.

"It suggests we need to be much more focused on understanding the early stages of tau accumulation in these brain areas in our ongoing search for Alzheimer's treatments," she adds.

"This research adds to a growing body of work showing that tau burden is likely a direct driver of cognitive decline."

Dr. Lea Grinberg

Heart Disease

Intense light may boost heart health (Medical News Today: 20190819)

<https://www.medicalnewstoday.com/articles/326074.php>

A novel use of intense light therapy may help decrease the tissue damage experienced during heart attacks, reveals new research in mice.

New research introduces a potential novel therapy for heart attacks.

The study, out of the University of Colorado and appearing in the journal Cell Reports, shows that exposing lab mice to intense light for a week improved their outcomes after heart attacks.

The research also suggests that this procedure could benefit humans, and the researchers outline the reason why.

"We already knew that intense light can protect against heart attacks, but now we have found the mechanism behind it," says the study's senior author Dr. Tobias Eckle, professor of anesthesiology at the University of Colorado School of Medicine in Aurora.

Boosting specific gene protects heart

In the study, the researchers discovered that intense light influences the functions of the PER2 gene, which is expressed by a part of the brain that controls circadian rhythms.

By boosting this gene through intense light therapy, the researchers discovered that the mice's heart tissue received extra protection when it experienced issues with oxygen, such as during a heart attack.

Additionally, this intense light also heightened cardiac adenosine, which is a specialized chemical that helps with blood flow regulation. In concert, both benefits helped protect heart health.

Also, when they studied the mice, the researchers found that being able to physically perceive light was vital, as blind mice experienced no benefits from the intense light.

Humans had similar benefits

The next step was to see if humans could benefit from light therapy. The researchers worked with healthy human volunteers and exposed them to 30 minutes of intense light.

On five consecutive mornings, the researchers exposed the participants to 10,000 lumens of light and drew blood several times.

The researchers found that PER2 levels increased in response to light therapy in the human participants as it did in the mice. They also reported that the human volunteers saw a decreased level of plasma triglycerides and improved metabolism.

Dr. Eckle explained that light plays an essential part in human health, not only in regulating the circadian rhythm but in cardiovascular health as well.

He adds that according to prior studies, more people throughout the U.S. experience heart attacks during the darker months of winter, even in states that traditionally get more sunshine, such as Hawaii and Arizona.

Heart disease and its impact on U.S. adults

Heart disease is widespread throughout the United States. Around 610,000 people die from heart disease every year, which accounts for 1 out of every 4 deaths.

Coronary heart disease is the most common form of heart disease, and around 735,000 people in the U.S. experience a heart attack annually.

While most people know that chest pain is a sign of a heart attack, other less obvious signs include shortness of breath, upper body pain, nausea, cold sweats, lightheadedness, and discomfort in the arms, back, neck, jaw, or upper stomach.

Is this chest pain from GERD or a heart attack?

Learn how to tell the difference.

There are many ways that people can reduce their risk of developing heart disease, such as eating better and exercising more. However, it is vital that research to discover new ways to protect the cardiovascular system continues.

This study using intense light highlights how something seemingly unrelated to heart health can have such protective benefits.

This study could have a significant impact on the treatment of heart patients in the future. Eckle says that "if the therapy is given before high risk cardiac and non-cardiac surgery, it could offer protection against injury to the heart muscle which can be fatal."

Eckle believes there are other possibilities, too, adding that "drugs could also be developed that offer similar protections based on these findings."

"However, future studies in humans will be necessary to understand the impact of intense light therapy and its potential for cardio protection."

Dr. Tobias Eckle

Diabetes

Diabetes overtreatment seriously endangers health (Medical News Today: 20190819)

<https://www.medicalnewstoday.com/articles/326063.php>

People with diabetes, particularly those with type 1 diabetes, may have an increased risk of hypoglycemia (low blood sugar) if they receive too much glucose lowering therapy. New research now warns that many people with diabetes face that risk.

Many people receive too intensive a treatment for diabetes.

In 2018, Medical News Today reported on a study warning that many people with type 2 diabetes may be overmonitoring their glucose levels, which may lead to the misuse of tests and supply waste.

Now, new research from the Mayo Clinic in Rochester, MN, warns that the United States faces a much more dangerous problem: the overtreatment of diabetes.

According to the study paper — which now appears in the journal Mayo Clinic Proceedings — many people receive too much glucose lowering therapy.

This increases a person's risk of hypoglycemia, or abnormally low blood sugar levels.

"Hypoglycemia, or low blood glucose, is one of the most common serious adverse effects of diabetes therapy, causing both immediate and long term harm to [people] who experience it," explains lead researcher Dr. Rozalina McCoy.

"Severe hypoglycemia, defined by the need for another person to help the patient treat and terminate their hypoglycemic event, is associated with increased risk of death, cardiovascular disease, cognitive impairment, falls and fractures, and poor quality of life," she adds.

The researchers found that in the U.S., people with diabetes often receive much more medication than their hemoglobin A1C levels would require. Hemoglobin A1C levels are a person's average blood sugar levels over a period of around 3 months.

In the cohort they studied, this resulted in 4,774 hospital admissions and 4,804 emergency department visits in the span of 2 years.

"Importantly, these numbers are a large underestimation of the true scope of overtreatment-induced hypoglycemic events," warns Dr. McCoy.

Millions of people receive too much therapy

The researchers used 2011–2014 data from the National Health and Nutrition Examination Survey, as well as information from the OptumLabs Data Warehouse.

The team's first step was to estimate how prevalent intensive glucose lowering therapy was in the U.S. by using National Health and Nutrition Examination Survey data.

They defined "intensive therapy" as taking one type of medication to achieve hemoglobin A1C levels of 5.6% or under, or taking two or several types of medication to achieve hemoglobin A1C levels of 5.7 to 6.4%.

Plant based diets tied to 23% lower diabetes risk

New research suggests that adopting a plant based diet may help lower the risk of diabetes.

Then, they used information from the OptumLabs Data Warehouse to estimate how many people with diabetes had visited an emergency department or the hospital because of hypoglycemia related to overly intensive treatment.

The team determined that 10.7 million nonpregnant adults with diabetes had hemoglobin A1C levels within recommended levels (under 7%). Of these, however, almost 22% received intensive glucose lowering therapy.

This means that as many as 2.3 million people with diabetes received overly intensive treatment between 2011 and 2014 in the U.S., the researchers found.

This was regardless of whether or not they had clinically complex profiles, such as:

being aged 75 or over

being limited in two or more daily activities, including eating or getting dressed, and walking from room to room

having a diagnosis of end stage kidney disease

having three or more chronic conditions

According to the study, 32.3% of the 10.7 million people in the cohort had clinically complex profiles. However, this did not seem to have any bearing on whether or not an individual received intensive treatment for diabetes.

"Older people and others we consider clinically complex are more at risk to develop hypoglycemia, as well as experience other adverse events because of intensive or overtreatment," notes Dr. McCoy.

"However, at the same time, these [people] are unlikely to benefit from intensive therapy rather than moderate glycemic control," she notes.

"When we develop a diabetes treatment plan, our goal should be to maximize benefit while reducing harm and burden of treatment."

Dr. Rozalina McCoy

Overtreatment as harmful as undertreatment

The researchers explain that currently, most policymakers and healthcare professionals are committed to controlling hyperglycemia (high blood sugar levels) and reducing instances of undertreatment.

However, Dr. McCoy notes, there also needs to be more awareness of the dangers of overtreatment.

"We need to align treatment regimens and goals with each patient's clinical situation, health status, psychosocial situation, and reality of everyday life to ensure that care is consistent with their goals, preferences, and values," she advises.

"While some episodes of hypoglycemia may be unavoidable, especially if caused by unmodifiable risk factors such as need for insulin therapy, others may be preventable, as in the case of overtreatment," explains Dr. McCoy.

She says that going forward, it is important that healthcare providers hit a balance in the recommendations they issue to their patients with diabetes.

"It is important not only to ensure that we do not undertreat our patients with diabetes, but also that we do not overtreat them because both undertreatment and overtreatment can harm our patients," stresses Dr. McCoy.

Breast Cancer

The power of electromagnetic energy on breast cancer cells (Medical News Today: 20190819)

<https://www.medicalnewstoday.com/articles/326070.php>

Cancer's ability to spread throughout the body can turn a curable case into an aggressive and sometimes fatal one. A team of engineers and cancer biologists may have found a way to slow down, and even stop, the migration of breast cancer cells.

Electromagnetic fields may stop breast cancer cells from dividing and spreading.

Cancer, by nature, is a destructive force. Sometimes, it spreads, or metastasizes, to a distant body part. While some cancer cells die during this process, others might go on to create additional tumors.

The majority of treatments are ineffective at curing metastatic cancer, so it is vital to find ways to stop the cancer cells from spreading.

Researchers believe electromagnetic fields can help. While this has been a point of interest for years, it is only recently that experts have begun to unravel the mechanism.

Tracking cancer spread

A new study, published in *Communications Biology*, has found that these electromagnetic fields are effective in halting the spread of some breast cancer cells.

The speed at which breast cancer migrates varies between individuals, and it is almost impossible for experts to calculate how and when cell mutations occur.

However, a team from Ohio State University have built a tool that could target cancer cell migration. Referred to as a Helmholtz coil, the researchers used it to apply an even amount of electromagnetic energy to a range of breast cancer cells.

The team also constructed an instrument that could track the direction of cell movement via a microscope.

Although the researchers carried out the test in a lab rather than in the human body, lead author Jonathan Song says that this apparatus could imitate "what actually happens in the body in a controllable environment."

Song — who is an assistant professor of mechanical and aerospace engineering at the university — and his team did not know if the cells would respond to the electromagnetic energy.

But they did. In fact, the team was able to examine precisely how such energy impacted the shape and movement of the cancer cells.

A new technique for resistant cells

Certain cell types that would typically spread by forming "long, thin extensions at the edge" were unable to do so when hit by a low intensity electromagnetic field.

On further inspection, the researchers found that these cells seemed to recognize the existence of the electromagnetic energy, as well as the direction it came from.

More significantly, the team found that metastatic triple-negative breast cancer cells, which are the most challenging cells to treat, were the most responsive to electromagnetic fields.

Breast cancer: Blood test may predict relapse

A newly devised blood test may predict the likelihood of breast cancer recurrence.

Metastatic triple-negative cancer cells are different from other cancer cells. They do not have estrogen or progesterone receptors or human epidermal growth factor receptor 2 genes.

Most cancer treatments work by blocking one or all of these receptors. When a cancer cell does not have any of these receptors, hormone therapies are ineffective. When a person has triple-negative cancer, doctors typically use other treatments, such as chemotherapy.

In addition to finding a possible way to stop the spread of triple-negative cells, the team established that using electromagnetic energy in combination with specific drug therapies — particularly those that target cell growth signals carried by the AKT protein — could have a more significant impact.

Further steps

There is a long way to go before researchers can conclude that electromagnetic fields are an effective way to stop the spread of cancer cells in the human body.

Before testing the technology on humans, researchers will first have to verify the results in animals — most likely mice.

However, these findings are still a critical step forward for cancer research, especially in terms of metastatic cancer because it is these types of cancer that cause the most cancer deaths.

"What we showed, biologically, is that these cancer cells are becoming profoundly less metastatic, which is a very important finding."

Jonathan Song