

समाचार पत्रों से चयित अंश Newspapers Clippings

दैनिक सामयिक अभिज्ञता सेवा
A Daily Current Awareness Service

Vol. 45 No. 69 03 April 2020



रक्षा विज्ञान पुस्तकालय
Defence Science Library
रक्षा वैज्ञानिक सूचना एवं प्रलेखन केन्द्र
Defence Scientific Information & Documentation Centre
मैटकॉफ हाऊस, दिल्ली - 110 054
Metcalf House, Delhi - 110 054

DRDO develops alternative sealant for PPEs

Mass manufacture of the glue to help suit production

New Delhi: In a major breakthrough, the Defence Research and Development Organisation (DRDO) has developed a special sealant as an alternative to seam sealing tape which is critical in Personal Protective Equipment (PPE).

A bio suit was also developed to keep medical and other personnel engaged in combating COVID-19 safe from the deadly virus, Defence Ministry said on Thursday.

“The DRDO has prepared a special sealant as an alternative to seam sealing tape based on the sealant used in submarine applications. Presently, bio suits prepared using this glue for seam sealing by an industry partner has cleared test at Southern India Textile Research Association (SITRA), Coimbatore,” the Ministry said in a statement.



It said bio suit production in the country by DRDO industry partners and other industries were being hampered due to non-availability of seam sealing tapes. DRDO can mass produce this glue through the industry to support the seam sealing activity by suit manufacturers.

Boosting Production

Presently Kusumgarh Industries, with technology transfer from DRDO, is producing the raw material, coating material, and the complete suit is being manufactured with the help of another vendor, the statement said. “The current production capacity is 7,000 suits per day.”

Another vendor with experience in garment technology is being brought in and efforts are on to ramp up the capacity to 15,000 suits a day, the Ministry stated.

The bio suit was developed with the help of the industry by scientists at various DRDO laboratories by applying the technical know-how and expertise in textile, coating and nanotechnology. It has been subjected to rigorous testing for textile parameters as well as protection against synthetic blood. “The protection against synthetic blood exceeds the criteria defined for body suits by the Ministry of Health and Family Welfare (MoHFW),” the statement said.

The DRDO has already developed a number of products and technologies for defence against Chemical, Biological, Radiological and Nuclear (CBRN) agents for the armed forces. The Defence Research and Development Establishment (DRDE), Gwalior, a laboratory of the DRDO, has developed CBRN Permeable Suit Mk-V and 53,000 of them have been supplied to the Army and National Disaster Response Force (NDRF).

Separately, Naval Dockyard, Mumbai, has designed and developed its own handheld Infra Red (IR) based temperature sensor for screening at its entry gates, which have an average influx of around 20,000 personnel every day.

The instrument has been manufactured through in-house resources at a cost of under ₹ 1000, a fraction of the cost of the temperature guns in the market, the Navy said.

<https://www.thehindu.com/news/national/drdo-develops-alternative-sealant-for-ppes/article31240199.ece>

DRDO develops new bio suit to keep medical personnel safe from Coronavirus

The suit has been prepared with the help of the industry and subjected to rigorous testing for textile parameters as well as protection against synthetic blood

By Elizabeth Roche

Against the backdrop of number of covid-19 infections rising sharply in India and the country scouring international markets for equipment starting from testing kits to personal protective gear, the Defence Research and Development Organisation (DRDO) on Thursday said it had developed a bio suit to keep the medical, paramedical and other personnel safe from the coronavirus.

A statement from the Indian defence ministry said scientists at various DRDO laboratories have applied their technical know-how and expertise in textile, coating and nanotechnology to develop the the Personal Protective Equipment (PPE) having specific type of fabric with coating.

"The suit has been prepared with the help of the industry and subjected to rigorous testing for textile parameters as well as protection against synthetic blood. The protection against synthetic blood exceeds the criteria defined for body suits by Ministry of Health and Family Welfare (MoHFW)," the statement said.

"The DRDO is making all efforts to ensure that these suits are produced in large numbers and serve as robust line of defence for the medics, paramedics and other personnel in the front line combating COVID-19," the statement said.

Two private companies have been identified to partner DRDO in making the suits in large numbers, the statement said.

The production of such suits in the country by DRDO industry partners and others are being hampered due to non-availability of seam sealing tapes and to address this the DRDO has prepared a special sealant as an alternative, it said.

For first responders attending to radiological emergencies, a reusable suit has been developed by Institute of Nuclear Medicine and Allied Sciences (INMAS) Delhi, the statement added.

Separately, in another statement, the Indian navy said that the Naval Dockyard in Mumbai had designed and developed its own handheld infrared based temperature sensor for screening large number of personnel. The instrument has been manufactured under Rs. 1000/- through in-house resources, "which is fraction of the cost of the Temperature Guns in the market," it said.

The 285 year old Naval Dockyard (ND) of Western Naval Command (WNC) sees the influx of around 20,000 personnel on a average every day. The most preliminary method to screen a probable patient is to check for body temperature by a non-contact means, the statement added.

<https://www.livemint.com/news/india/drdo-develops-new-bio-suit-to-keep-medical-personnel-safe-from-coronavirus-11585836692158.html>

डीआरडीओ ने कोरोना वायरस का इलाज कर रहे चिकित्सा

पेशेवरों के लिए “बायो सूट” विकसित किया

नई दिल्ली दो अप्रैल (भाषा): भारत के प्रमुख रक्षा अनुसंधान संस्थान डीआरडीओ ने कोरोना वायरस से संक्रमित लोगों का इलाज कर रहे डॉक्टरों सहित चिकित्सा पेशेवरों की सुरक्षा के लिए “बायो सूट” विकसित किया है। अधिकारियों ने बताया कि रक्षा अनुसंधान विकास संगठन (डीआरडीओ) की विभिन्न प्रयोगशालाओं में कार्यरत वैज्ञानिकों ने मिलकर “बायो सूट” विकसित किया है जो चिकित्सा पेशेवरों के लिए व्यक्तिगत सुरक्षा उपकरण (पीपीई) की तरह काम करेगा। उन्होंने बताया कि पूरे देश में पीपीई की बढ़ती मांग को देखते हुए प्रतिदिन कम से कम 15,000 बायो सूट का उत्पादन करने के लिए कदम उठाया जाएगा।

भारत कोरोना वायरस संक्रमितों का इलाज करने वाले डॉक्टरों और पैरामेडिक कर्मियों के लिए पीपीई की कमी का सामना कर रहा है। सरकार वैश्विक बाजार से पीपीई, वेंटिलेटर और एन-95 मास्क खरीदने पर विचार कर रही है।

रक्षा मंत्रालय ने बयान में बताया, “डीआरडीओ की विभिन्न प्रयोगशालाओं में कार्यरत वैज्ञानिकों ने वस्त्र, परत और नैनोटेक्नोलॉजी में अपनी विशेषज्ञता का इस्तेमाल कर पीपीई विकसित किया है जिसमें विशेष परत के साथ खास तरह के रेशों का इस्तेमाल किया गया है।” मंत्रालय ने बताया,

“सूट को वस्त्र उद्योग की मदद से विभिन्न कसौटियों पर परखने के बाद तैयार किया गया है और इससे साथ ही कृत्रिम खून से रक्षा का परीक्षण भी किया गया है।” बयान में कहा गया कि डीआरडीओ बड़े पैमाने पर इसका उत्पादन शुरू करने की कोशिश कर रहा है ताकि कोरोना वायरस के संक्रमितों का इलाज कर रहे डॉक्टरों और पैरामेडिक कर्मियों की पीपीई के लिए भारी मांग के अनुपात में इसकी आपूर्ति की जा सके। मंत्रालय ने बताया कि मौजूदा समय में एक दिन में सात हजार बायो सूट बनाने की क्षमता है।

अधिकारी ने बताया कि डीआरडीओ और अन्य उद्योगों की साझेदारी में बायो सूट बनाने का काम “सीम सीलिंग टेप” (जो आद्र कण को अंदर आने से रोकने के लिए लगाया जाता है) की अनुपलब्धता की वजह से बाधित हुआ। इसके बाद डीआरडीओ ने पनडुब्बी को जलरोधी बनाने में इस्तेमाल द्रव के आधार पर तैयार द्रव का इस्तेमाल सीम सीलिंग टेप की जगह बायो सूट में किया। उन्होंने बताया कि डीआरडीओ विभिन्न सुरक्षा प्रतिष्ठानों और संगठनों को पूरे देश में डेढ़ लाख सेनेटाइजर की आपूर्ति कर रहा है।

अधिकारी ने बताया कि पांच परत वाले मास्क एन-99 नैनो टेक्नोलॉजी के आधार बनाये गये हैं और युद्धस्तर पर इसका उत्पादन किया जा रहा है। 10 हजार मास्क पहले ही बनाये जा चुके हैं और जल्द ही रोजाना 20 हजार ऐसे मास्क का उत्पादन किया जाएगा। उन्होंने बताया कि डीआरडीओ प्रयोगशाला ने दिल्ली पुलिस को 40 हजार मास्क की आपूर्ति की है। अधिकारी ने बताया कि डीआरडीओ वेंटिलेटर में मामूली बदलाव कर रहा है ताकि एक ही वेंटिलेटर से एक बार में चार मरीजों के जीवन की रक्षा की जा सके।

(यह आर्टिकल एजेंसी फीड से ऑटो-अपलोड हुआ है। इसे नवभारतटाइम्स.कॉम की टीम ने एडिट नहीं किया है।)

<https://navbharattimes.indiatimes.com/india/drdo-develops-bio-suite-for-medical-professionals-treating-corona-virus/articleshow/74957035.cms>

डीआरडीओ ने बनाया बायो सूट कोरोना मरीजों के इलाज में जुटे डॉक्टरों के लिए माना जा रहा है ज़रूरी

- बायो सूट चिकित्सा पेशेवर के लिए पीपीई की तरह काम करेगा
- डीआरडीओ ने प्रतिदिन 15,000 बायो सूट तैयार करने का लक्ष्य रखा
- वर्तमान में डीआरडीओ की 7,000 बायो सूट तैयार करने की क्षमता है

नई दिल्ली: देश के प्रमुख सुरक्षा संस्थानों में से एक रक्षा अनुसंधान एवं विकास संगठन (DRDO) ने कोरोना वायरस (coronavirus) से संक्रमित लोगों का इलाज कर रहे डॉक्टरों और पैरामेडिकल स्टाफ की सुरक्षा के लिए बायो सूट (Bio suit) विकसित किया है। इसे डीआरडीओ (DRDO) की विभिन्न प्रयोगशालाओं में कार्यरत वैज्ञानिकों ने मिल कर विकसित किया है। यह कोरोना मरीजों की देख रेख में जुटे चिकित्सा पेशेवरों के लिए व्यक्तिगत सुरक्षा उपकरण (PPE) की तरह काम करेगा। बायो सूट को कोरोना मरीजों का इलाज डॉक्टरों व अन्य पैरामेडिकल स्टाफ के लिए ज़रूरी माना जाता है।

डीआरडीओ से मिली जानकारी की मुताबिक पूरे देश में पीपीई की बढ़ती मांग को देखते हुए प्रतिदिन कम से कम 15,000 बायो सूट का उत्पादन का लक्ष्य रखा गया है। इस समय भारत कोरोना वायरस संक्रमितों का इलाज करने वाले डॉक्टरों और पैरामेडिकल कर्मियों की लिए पीपीई की भारी कमी का सामना कर रहा है। भारत सरकार भी वैश्विक बाजार से पीपीई, वेंटीलेटर और एन-95 मास्क खरीदने पर विचार कर रही है।

बता दें की गुरुवार को पीपीई की कमी का मुद्दा PM मोदी के साथ वीडियो कॉन्फ्रेंसिंग की जरिये बातचीत में राज्यों के मुख्यमंत्रियों ने उठाया था। दक्षिण भारतीय राज्यों ने इसकी कमी को लेकर गंभीर चिंता जताई थी। मुख्यमंत्रियों ने पीएम मोदी से कहा था कि पीपीई के अभाव में कोरोना मरीजों का इलाज तेज़ी से नहीं हो रहा है, यह हमारे लिए एक चुनौती है।

संभवतः इस बात को ध्यान में रखते हुए DRDO बड़े पैमाने पर बायो सूट का उत्पादन शुरू करने की योजना पर काम कर रहा है। ताकि कोरोना वायरस की संक्रमितों का इलाज कर रहे डॉक्टरों और पैरामेडिकल कर्मियों की पीपीई की लिए भारी मांग की अनुपात में इसकी आपूर्ति कि जा सके। रक्षा मंत्रालय के अधिकारियों ने बताया है कि मौजूदा समय में एक दिन में 7 हजार बायो सूट बनाने की क्षमता है। लेकिन इसे बढ़ा कर 15 हजार करने की योजना है।

डीआरडीओ की ओर से जारी बयान में कहा गया है की डीआरडीओ की विभिन्न प्रयोगशालाओं में कार्यरत वैज्ञानिकों ने वस्त्र, परत और नैनोटेक्नोलॉजी में अपनी विशेषज्ञता का इस्तेमाल कर पीपीई विकसित किया है। बायो सूट में सुरक्षा के लिए विशेष परत के साथ खास तरह के रेशों का इस्तेमाल किया गया है। सूट को वस्त्र उद्योग की मदद से विभिन्न कसौटियों पर परखने के बाद तैयार किया गया है और इससे साथ ही कृत्रिम खून से रक्षा का परीक्षण भी किया गया है।

<https://www.patrika.com/miscellaneous-india/drdo-made-bio-suit-it-is-considered-necessary-for-doctors-engaged-in-treatment-of-corona-patients-5961158/>



Fri, 03 April 2020

COVID-19: देश के लिए मिसाइल बनाने वाली DRDO ने खास पीपीई सूट तैयार किया, पहनने से नहीं होगा संक्रमण का खतरा

डीआरडीओ ने पैराशूट बनाने वाले मैटेरियल से इस सूट को तैयार किया है। डीआरडीओ के महानिदेशक एके सिंह ने बताया कि वैज्ञानिकों ने टेस्ट करके पाया है कि इसके पहनने से कोरोना संक्रमण का खतरा नहीं होगा

नीरज राजपूत

नई दिल्ली: देश के लिए मिसाइल और हथियार बनाने वाली डीआरडीओ ने कोरोना वायरस से लड़ने के लिए खास पीपीई सूट तैयार किया है। डीआरडीओ ने ये सूट पैराशूट बनाने वाले मैटेरियल से तैयार किया गया है। डीआरडीओ के महानिदेशक एके सिंह के मुताबिक, कोरोना वायरस जिस तरह देश में फैल रहा है ऐसे में आने वाले समय में डॉक्टर्स और पैरा-मेडिकल स्टाफ को पर्सनल प्रोटेक्टिव ईक्विपमेंट (पीपीई) यानी सूट की डिमांड बढ़ने वाली है। ऐसे में डीआरडीओ के आगरा स्थित एडीआरडीई (एरियल डिलीवरी रिसर्च एंड डेवलपमेंट ऑर्गेनाइजेशन) लैब ने दिल्ली के इंस्टीट्यूट ऑफ न्युक्लियर मेडिसिन एंड एलाईड साइंसेज (इनमास) सेंटर के साथ मिलकर ये प्रोटेक्टिव-सूट तैयार किया है।

एके सिंह के मुताबिक, इस सूट को वैज्ञानिकों ने टेस्ट करके पाया है कि इसके पहनने से कोरोना वायरस के संक्रमण का खतरा नहीं होगा। जानकारी के मुताबिक, महाराष्ट्र स्थित कुसुमगढ़ की एक प्राइवेट फैक्ट्री को इस तरह के सूट बनाने का कांट्रैक्ट दिया गया है। ये कंपनी अगले एक हफ्ते तक इस तरह के करीब दस हजार पीपीई सूट बनाकर तैयार करके सरकार को मुहैया करायेगी। एक दूसरी प्राइवेट कंपनी भी चिंहित कई गई है जो इस तरह के पांच हजार सूट बनाएगी। डीआरडीओ के डीजी के मुताबिक, इस पीपीई सूट बनाने की तकनीक को प्राइवेट इंडस्ट्री से शेयर किए जाने की तैयारी है ताकि इसका मास-प्रोडक्शन देश में किया जा सके।

डीआरडीओ के मुताबिक, इस तरह के बायो-सूट बनाने में दिक्कत इसमें इस्तेमाल होने वाले 'सीलेंट' के चलते आती है। क्योंकि सीलेंट-टेप आसानी से उपलब्ध नहीं होता है। इसीलिए डीआरडीओ ने जो सीलेंट पनडुब्बी में इस्तेमाल होती है उसी को इस पीपीई सूट में प्रयोग किया है ताकि प्राइवेट इंडस्ट्री भी इन सूट को बड़ी मात्रा में बना सके। साथ ही डीआरडीओ की ग्वालियर स्थित डीआरडीई लैब ने 53 हजार सीबीआरएन (कैमिकल बायोलॉजिकल रेडियोलॉजिकल एंड न्युकलियर) सूट भी सेना और एनडीआरएफ को पहले ही मुहैया करा रखे हैं। ये सीबीआरएन सूट भी कोरोना वायरस से लड़ने में कारगर साबित हो सकते हैं।

बता दें कि डिफेंस रिसर्च एंड डेवलपमेंट ऑर्गेनाइजेशन (डीआरडीओ) देश की प्रतिष्ठित रक्षा संस्थान है जो देश की सेनाओं के लिए मिसाइल, हथियार और फाइटर जेट तैयार करती है। लेकिन इस संकट घड़ी में डीआरडीओ की अलग अलग लैब कोरोना वायरस से लड़ने में मदद कर रही है। देश में कैमिकल-बायोलॉजिकल हथियारों से लड़ने की तकनीक भी डीआरडीओ ही तैयार करती है। ऐसे में कोरोना वायरस से निपटने में डीआरडीओ की तकनीक काफी मददगार साबित हो रही है। हाल के दिनों में डीआरडीओ ने देश के लिए 50 हजार से ज्यादा सैनेटाइजर तैयार किया है, दस हजार एन-99 मास्क बनाए हैं और 30 हजार वेंटिलेटर बनाने में भी मदद कर रही है।

<https://www.abplive.com/news/india/coronavirus-drdo-specially-designed-ppe-wearing-suit-will-not-risk-infection-ann-1341258>

कोरोना से जंग को डीआरडीओ ने कसी कमर, मास्क, सैनिटाइजर से लेकर 'बायो सूट' तक बनाया

नई दिल्ली: कोरोना वायरस से लड़ने के लिए डीआरडीओ ने भी कमर कस ली है। रक्षा अनुसंधान व विकास संगठन (डीआरडीओ) ने देश में बढ़ते कोरोना वायरस के खतरे को देखते हुए अत्याधुनिक मास्क, सैनिटाइजर से लेकर 'बायो सूट' तैयार किए हैं। डीआरडीओ ने कुल चार उत्पादों को तैयार किया है।

कोरोना संक्रमितों के इलाज में जुटे डॉक्टरों व स्वास्थ्यकर्मियों के लिए डीआरडीओ ने खास 'बायो सूट' तैयार किया है। यह सूट स्वास्थ्यकर्मियों और डॉक्टरों को संक्रमण से बचाएगा। अधिकारियों के मुताबिक यह 'बायो सूट' निजी सुरक्षा उपकरण (PPE) के तौर पर काम करेगा। देश में बढ़ती जरूरत को देखते हुए रोज करीब 15 हजार सूट बनाने की तैयारी चल रही है।

जानकारी के मुताबिक डीआरडीओ की नजर बहुत पहले से ही चीन के वुहान शहर में वायरस के प्रकोप पर थी। इसी के चलते मार्च की शुरुआत में ही डीआरडीओ ने इस बीमारी को रोकने की दिशा में प्रयास करने शुरू कर दिए थे। उस समय देश में कोरोना संक्रमितों की संख्या 30 भी नहीं पहुंची थी।

डीआरडीओ ने जो चार उत्पाद तैयार किए हैं, उनमें हैंड सैनिटाइजर, क्रिटिकल केयर वेंटिलेटर, एन99 मास्क और बॉडीसूट हैं। डीआरडीओ द्वारा तैयार बॉडीसूट की खासतौर से चर्चा है। संगठन का कहना है कि इस सूट से डॉक्टरों, स्वास्थ्यकर्मियों, सफाईकर्मियों व अन्य को इस वायरस की चपेट में आने से बचाया जा सकता है।

डीआरडीओ के मुताबिक यह बॉडीसूट पहले सिर्फ मेडिकल और पैरामेडिकल स्टाफ के लिए बनाया गया था ताकि रेडियोलॉजिकल आपात स्थिति में इसका उपयोग किया जा सके। मगर अब इसे पूरी तरह से ऐसे बनाया गया है ताकि संक्रमण भी रुक सके। इस बॉडीसूट की खास बात यह है कि इसे धोया जा सकता है और यह एएसटीएम अंतरराष्ट्रीय मानक पर भी खरा उतरा है।

एक सूट की कीमत 7 हजार रुपये

डीआरडीओ ने बताया कि इस एक बॉडीसूट की कीमत 7000 रुपये है। कोलकाता की फ्रंटियर प्रोटेक्टिव वियर प्राइवेट लिमिटेड और मुंबई की मेडिकिट प्राइवेट लिमिटेड हर रोज 10 हजार सूट तैयार कर रहे हैं।

चार मरीजों के लिए एक वेंटिलेटर

डीआरडीओ ने खास तरह के वेंटिलेटर का भी डिजाइन तैयार किया है। इसके जरिए एक वेंटिलेटर से कई मरीजों को एक साथ लाइफ सपोर्ट पर रखा जा सकेगा। डीआरडीओ के प्रमुख जी सतीश रेड्डी ने कहा कि यह शीर्ष रक्षा अनुसंधान संगठन वेंटिलेटर में मामूली बदलाव कर रहा है ताकि एक मशीन एक ही समय पर चार रोगियों की मदद कर सके। एक हफ्ते के भीतर यह उपलब्ध होना शुरू हो जाएगा। डीआरडीओ की तैयारी पहले महीने 5000 के करीब वेंटिलेटर्स बनवाने की है। इसके बाद 10 हजार और तैयार करवाए जाएंगे। एक वेंटिलेटर की कीमत करीब 4 लाख रुपये होगी।

पांच लेयर वाला मास्क

डीआरडीओ ने पांच लेयर वाला एन99 मास्क भी बनाया है। निजी कंपनियों से करार के मुताबिक हर रोज करीब 10 हजार मास्क बनाए जा सकेंगे। इसके लिए कच्चा माल अहमदाबाद टेक्सटाइल से आएगा। इस एक मास्क की कीमत 70 रुपये होगी। डीआरडीओ ने 40,000 अन्य मास्क की आपूर्ति दिल्ली पुलिस को की है।

सैनिटाइजर भी बना रहा

डीआरडीओ ने सैनिटाइजर भी बनाया है। भारतीय सुरक्षा बल, सेना के मेडिकल स्टाफ, सुरक्षा में लगे जवानों के लिए 4000 लीटर सैनिटाइजर भेजा गया है। जबकि रक्षा मंत्रालय को 1500 लीटर और संसद को 300 लीटर सैनिटाइजर उपलब्ध कराया गया है। अन्य सुरक्षा संस्थानों व उच्च कार्यालयों के लिए भी 500 लीटर सैनिटाइजर बनाया गया है।

<https://www.amarujala.com/india-news/drdo-ready-to-fight-coronavirus-preparing-body-suits-sanitizers-and-n99-masks>



Fri, 03 April 2020

Covid-19: मरीज और योद्धाओं का खयाल रख रहा ये संस्थान, कई परेशानियों का निकाला समाधान

कोरोना वायरस (Coronavirus) से लड़ाई के बीच डीआरडीओ (DRDO) संक्रमित मरीजों के इलाज और इस महामारी से जंग लड़ रहे डॉक्टरों और अस्पतालों का खयाल रखने में जुटा है

नई दिल्ली: भारत सरकार और राज्य सरकारें कोरोना वायरस (Coronavirus) के फैलते संक्रमण से बचाव के लिए तमाम इंतजामात करने में जुटी हैं। कोरोना से संक्रमित मरीजों के इलाज और बीमारी को लेकर जागरूकता फैलाने के काम में कई सरकारी और गैरसरकारी संस्थान भी जुटे हुए हैं। इन्हीं में से एक संस्थान है रक्षा अनुसंधान एवं विकास संगठन यानी डीआरडीओ (DRDO)। कोरोना वायरस से लड़ाई के बीच डीआरडीओ, संक्रमित मरीजों के इलाज और इस महामारी से जंग लड़ रहे डॉक्टरों और अस्पतालों का खयाल रखने में जुटा है। इस मुश्किल समय में चाहे अस्पतालों में वेंटीलेटर की जरूरत का सवाल हो या पर्सनल प्रोटेक्शन इक्यूपमेंट (PPE), मास्क और सैनेटाइजर की सप्लाई का, डीआरडीओ डॉक्टर और मरीज की हर जरूरत का सामान बनाने में जुटा हुआ है। संस्थान के अफसर हों या कर्मचारी, सभी अपने काम छोड़कर दिन-रात महामारी से लड़ाई में डटे हुए हैं।

वेंटीलेटर की कमी दूर कर दी

जैसे-जैसे कोरोना के पॉजिटिव केस बढ़ रहे थे, वैसे ही डॉक्टर यह आशंका भी जता रहे थे कि हमें अस्पतालों में बड़ी संख्या में वेंटीलेटर की जरूरत पड़ सकती है। देश के अस्पतालों में वेंटीलेटर की संख्या कम है। ऐसे में डीआरडीओ आगे आया और उसने वेंटीलेटर बनाने शुरू कर दिए। डीआरडीओ के विशेषज्ञों ने मौजूदा वेंटीलेटर में एक ऐसा बदलाव किया कि अब एक ही वेंटीलेटर से एक साथ चार मरीजों का इलाज करना मुमकिन हो सकेगा।

मेडिकल स्टाफ की सुरक्षा का खयाल

अस्पताल में जब कोरोना के पॉजिटिव केस आ रहे हों, तो यह जरूरी हो जाता है कि डॉक्टर, पैरा मेडिकल स्टाफ, एंबुलेंस स्टाफ और अन्य कर्मचारियों को संक्रमण से बचाया जाए। इसके लिए जरूरी था PEP। लेकिन शुरुआत में इसकी कमी हो रही थी। कई जगह पर पैरा मेडिकल स्टाफ सड़क पर आ गए थे। इस हालात में भी डीआरडीओ आगे आया और उसने तुरंत ही पीईपी बनाने शुरू कर दिए। आज की तारीख में डीआरडीओ हर रोज 40 हजार पीईपी बना रहा है। इसमें आसमानी रंग का वो सूट भी शामिल है, जो हम आजकल डॉक्टरों को पहने हुए देख रहे हैं।

लॉकडाउन का पालन करा रही पुलिस का भी रखा खयाल

दिल्ली पुलिस हो या दूसरी फोर्स, लॉकडाउन में लोग घरों से न निकलें इसके लिए सड़कों पर तैनात हैं। लेकिन सड़क पर भीड़ के बीच रहने के चलते खतरा इन्हें भी था। इसे ध्यान में रखते हुए डीआरडीओ ने मास्क और सैनेटाइजर बनाना भी शुरू किया। अभी तक यह संस्थान एक लाख लीटर सैनेटाइजर बनाकर दिल्ली पुलिस और दूसरी फोर्स

को सप्लाई कर चुका है। यही नहीं संस्थान ने आम लोगों की सुरक्षा के लिए पहले सामान्य मास्क बनाए, लेकिन अब हर रोज 20 हजार एन-99 मास्क भी बना रहा है। डीआरडीओ की इस तत्परता को देखते हुए रक्षा मंत्री राजनाथ सिंह ने इसके काम की तारीफ करते हुए उससे अपना उत्पादन बढ़ाने की बात कही है।

देश के यह 7 पीएसयू भी आए मैदान में

डीआरडीओ की ही तरह देश के कई अन्य सरकारी संस्थान भी कोरोना से जंग में अहम भूमिका निभा रहे हैं। इनमें एचएएल, बीएचईएल, जीएसएल, बीईएल, एचएसएल, बीडीएल सहित 7 पीएसयू शामिल हैं। इन संस्थानों ने कोरोना की लड़ाई में 40 करोड़ रुपए दिए हैं। साथ ही डीआरडीओ की तरह ही काम के लिए तैयार हैं।

<https://hindi.news18.com/news/delhi-ncr/drdo-is-making-many-some-equipment-like-ventilators-pep-mask-to-fight-with-coronavirus-dlnh-2980504.html>

ఈనాడు

Fri, 03 April 2020

Intellectual war on Corona

కరోనాపై మేధో యుద్ధం

- వైరస్ పై పోరుకు సమాయత్తమయ్యాం ● వారానికి 30 వేల వెంటిలేటర్ల తయారీ
- వైద్యులకు రక్షణాత్మక దుస్తులు ● వ్యాక్సిన్ తయారీలోనూ పరిశోధనలు ● డీఆర్డీవో చైర్మన్ సతీష్ రెడ్డి

'కరోనా యుద్ధం మధ్యలో ఉన్నాం. అది కూడా కనిపించి కనిపించని శత్రువుతో యుద్ధం. కనిపించే శత్రువుతో పోరాడాలంటే ఆయుధాలు సరిపోతాయి. ఇది కంటికి కనిపించదు. అందుకే అలాంటి శత్రువుతో యుద్ధానికి డీఆర్డీవో మేధస్సుతో సమాయత్తమవుతోంది' అని డీఆర్డీవో చైర్మన్, రక్షణ మంత్రి సలహాదారు జి.సతీష్ రెడ్డి చెప్పారు. కరోనా వైరస్ వ్యాప్తి పెరుగుతున్న నేపథ్యంలో దాని నివారణకు డీఆర్డీవో చేపడుతున్న చర్యలను 'ఈనాడు'కు ఇచ్చిన ప్రత్యేక ఇంటర్వ్యూలో వివరించారు.

? కరోనా కట్టడిలో డీఆర్డీవో పాత్ర ఏమిటి

- ఈనాడు, హైదరాబాద్

వైరస్ కనిపించని శత్రువు. దాన్ని జయించేందుకు కీలకపాత్ర పోషిస్తున్నాం. వలు ఉత్పత్తులు మేధో మధనం స్థాయి దాటి కార్యరూపంలోకి తీసుకువచ్చే దశలో ఉన్నాయి. కొన్ని ఉత్పత్తి దశలో ఉన్నాయి.

? మాస్కులు, శానిటైజర్లు, వెంటిలేటర్లు ఎప్పుడు అందుబాటులోకి వస్తాయి?

మాస్కులు, శానిటైజర్లు పూర్తి స్థాయిలో ఉత్పత్తి అవుతున్నాయి. తొలివిడతగా కొన్నింటిని తెలంగాణ ప్రభుత్వానికి ఇస్తున్నాం. వెంటిలేటర్ల నమూనాలకు కేంద్ర ప్రభుత్వం నుంచి అనుమతి లభించింది. తయారీ కోసం ప్రయివేటు సంస్థలకు ఇచ్చాం.

? నూత్రీషియస్ ఫుడ్ తయారీలో డీఆర్డీవోకు అనుభవం ఉంది కదా? కరోనా బాధితుల కోసం ఎలాంటి ఏర్పాట్లు చేస్తున్నారు?

జరగరానిది ఏమైనా జరిగితే, ఆహారానికి కొరత రాకూడదనే వ్యూహంతో రెడీమెడ్ ఆహారాన్ని తయారు చేసి నిల్వ చేస్తున్నాం. ఆహార కొరతకు అవకాశం ఉండవచ్చని కొన్ని దేశాలను ప్రపంచ ఆరోగ్య సంస్థ అప్రమత్తం చేసింది. ఆ దేశాల జాబితాలో భారతదేశం లేదు. అది వేరే విషయం.

? సైన్యం, శాస్త్ర సాంకేతిక నిపుణులు వైరస్ బారిన పడకుండా ఎలాంటి చర్యలు తీసుకుంటున్నారు?

సరిహద్దుల్లో ఉన్న సైన్యం మొదలు, ఇతర ప్రాంతాల్లో ఉన్న రక్షణ సిబ్బందికి మాస్కులు, శాని

టైజర్లను పూర్తి స్థాయిలో అందుబాటులో ఉంచాం. మిలిటరీ వైద్యులను ఇప్పటికే అప్రమత్తం చేశాం.

? ఎన్ని వెంటిలేటర్లు సిద్ధం చేస్తున్నారు.. ఎగుమతి అలోచనెమైనా ఉందా?

వైరస్ సోకే వారి సంఖ్య, అందులో వెంటిలేటర్లు అవసరమయ్యే వారెంత మంది అనేది వైద్యనిపుణులు అంచనా వేస్తారు. ఆ మేరకు చేస్తున్నాం. వెంటిలేటర్ల కొరతతో ఇబ్బంది పడుతున్న దేశాలకు మన వంతు సాయంగా పంపాలనుకుంటే కేంద్రం ఆ పని చేయొచ్చు.



వైరస్ బాధితులకు సేవలందిస్తున్న వైద్యుల రక్షణ కోసం చేస్తున్న సూట్స్ ఎప్పుడు అందుబాటులోకి వస్తాయి?

అత్యంత రక్షణాత్మకమైన రెండు రకాల నమూనాలు సిద్ధం చేశాం. నిపుణుల కమిటీ కూడా యుద్ధ ప్రాతిపదికన వాటికి ఆమోద ముద్ర వేసింది. ఒక్కో

సూటు తయారీకి సుమారుగా రూ. ఎనిమిది వేల వరకు వ్యయం అవుతుంది. వారానికి లక్షన్నర సూట్లు అందుబాటులోకి వస్తాయి.



వెంటిలేటర్లు రోజుకు ఎన్ని తయారు చేస్తున్నారు? వ్యయం ఎంత?

వారానికి 30 వేల వరకు తయారు అవుతాయి. ఈ వారంలో ఒక బ్యాచ్ వస్తుంది. రానున్న రోజుల్లో వాటి ఉత్పత్తి మరింతగా పెంచుతాం. ఒక్కో వెంటిలేటర్ తయారీకి సుమారు రూ. నాలుగు లక్షల వరకు వ్యయం అవుతోంది.



కరోనా వైరస్ కు చెక్ పెట్టేందుకు ఔషధాలు, వ్యాక్సిన్ తయారీలో డీఆర్డీవో ఏమైనా భాగస్వామి అవుతుందా?

ఆవత్కాలంలో సైన్యానికి అవసరమైన వైద్య సేవలు అందించేందుకు వైద్య రంగంలోని శాస్త్రవేత్తలతో కలిసి పని చేస్తున్నాం.

వైద్యులకు బయోసూట్

రూపొందించిన డీఆర్డీవో శాస్త్రవేత్తలు

దిల్లీ, ఈనాడు, హైదరాబాద్: కరోనా వైరస్ సోకిన రోగులకు చికిత్స చేస్తున్న వైద్యులు, పారామెడికల్ సిబ్బందిని రక్షించడానికి రక్షణ పరిశోధన, అభివృద్ధి సంస్థ (డీఆర్డీవో) శాస్త్రవేత్తలు ఒక బయోసూట్ ను తయారుచేశారు. సంస్థకు చెందిన అనేక ప్రయోగశాలల పరిశోధకులు ఈ కనరత్తులో పాలుపంచుకున్నారని అధికారులు వివరించారు. ఇది వ్యక్తిగత రక్షణ సాధనం (పీపీఈ)గా అభ్యుదయం దిగి తెలిపారు. దేశంలో వీటికి ఉన్న గిరాకీ దృష్ట్యా రోజుకు 15వేల సూట్లను తయారుచేయడానికి ఏర్పాట్లు చేస్తున్నట్లు వివరించారు.



పీపీఈలకు తీవ్ర కొరత ఉండటంతో వీటిని విదేశాల నుంచి దిగుమతి చేసుకోవాలని భారత్ భావిస్తోంది. "డీఆర్డీవోలోని వివిధ ప్రయోగశాలల శాస్త్రవేత్తలు జోలి, కోటింగ్, నానో టెక్నాలజీలో తమకున్న అనుభవాన్ని ఉపయోగించి బయోసూట్ ను రూపొందించారు. దీన్ని విస్తృతంగా పరీక్షించారు" అని రక్షణ శాఖ ఒక ప్రకటనలో పేర్కొంది. నిజానికి 'సీమ్ సీలింగ్ టెపుల' కొరతతో ఈ బయోసూట్ ఉత్పత్తికి ఇబ్బంది ఏర్పడింది. జలాంతర్గముల అవసరాలకు ఉపయోగించే పదార్థం ఆధారంగా ఒక ప్రత్యేక సీలెంట్ ను డీఆర్డీవో రూపొందించి, ఈ ఇబ్బందిని ఆదిగమించింది. దీనితోడు 1.5 లక్షల లీటర్ల శానిటైజర్లను దేశంలోని వివిధ భద్రతా సంస్థలకు సరఫరా చేస్తున్నామని అధికారులు చెప్పారు. నానో పరిజ్ఞానంతో ఐదు పౌరలు కలిగిన ఎన్99 మాస్కులను యుద్ధప్రాతిపదికన తయారు చేయడానికి ఏర్పాట్లు చేస్తున్నామన్నారు. ఇప్పటికే 10వేల మాస్కులు సరఫరా చేశామని, త్వరలో రోజుకు 20 వేల మాస్కులు ఉత్పత్తి చేస్తామని చెప్పారు.

కరోనా నుంచి రక్షణకు బయోసూట్

రూపొందించిన డీఆర్డీవో శాస్త్రవేత్తలు

సాక్షి, హైదరాబాద్ కరోనా బాధితులకు చికిత్స అందించే వైద్యులు, ఇతర సిబ్బంది ఆ వైరస్ బారిన పడకుండా ఉండేందుకు డీఆర్డీవో వినూత్న బయోసూట్ను రూపొందించింది. పర్సనల్ ప్రొటెక్టివ్ ఎక్విప్ మెంట్ (పీపీఈ) సూట్ను వివిధ డీఆర్డీవో లేబోరేటరీలకు చెందిన శాస్త్రవేత్తలు.. టెక్స్ టైల్, కోటింగ్, నానోటెక్నాలజీ తదితర సాంకేతికతలను పరిశీలించి వినూత్నమైన కోటింగ్ ద్వారా ఈ సూట్ తయారుచేశారు. ఈ సూట్లను అధిక మొత్తంలో ఉత్పత్తి చేసి, వైద్యులు, ఇతర సిబ్బందిని కరోనా నుంచి కాపాడేందుకు ఎంతగానో శ్రమిస్తున్నట్టు

డీఆర్డీవో గురువారం ఓ ప్రకటనలో పేర్కొంది. కుసుంఘర్ ఇండస్ట్రీస్ ఆనే సంస్థ ఈ సూట్ తయారీకి సంబంధించిన ముడి సరుకు సహా, కోటింగ్ మెటీరియల్ ఉత్పత్తి చేయడమే కాకుండా, పూర్తి సూట్ను కూడా తయారు చేస్తున్నట్టు వెల్లడించింది. ప్రస్తుతం రోజుకు 7 వేల సూట్లను తయారు చేసే సామర్థ్యం ఉన్నట్టు పేర్కొంది. వస్త్ర రంగంలో అనుభవం ఉన్న మరో సంస్థతో కలిసి రోజుకు 15వేల సూట్లను తయారుచే సేందుకు ప్రయత్నిస్తున్నట్టు వివరించింది. సూట్ను అతికించే టేప్ల కొరత కారణంగా వీటి ఉత్పత్తి తగ్గితోందని తెలిపింది. దీనికి



ప్రత్యామ్నాయంగా సబ్మెరైన్ల తయారీలో ఉపయోగించే ఓ పదార్థాన్ని వినియోగిస్తున్నట్టు వెల్లడించింది.

<https://epaper.sakshi.com/c/50572434>



Combating COVID-19: DRDO develops bio suit with seam sealing glue

New Delhi: The Defence Research and Development Organisation (DRDO) has developed a bio suit to keep the medical, paramedical and other personnel engaged in combating COVID-19 safe from the deadly virus.

"Scientists at various DRDO laboratories have applied their technical know-how and expertise in textile, coating and nanotechnology to develop the Personal Protective Equipment (PPE) having specific type of fabric with coating," read a statement.

The suit has been prepared with the help of the industry and subjected to rigorous testing for textile parameters as well as protection against synthetic blood. The protection against synthetic blood exceeds the criteria defined for body suits by the Ministry of Health and Family Welfare.

"DRDO is making all efforts to ensure that these suits are produced in large numbers and serve as robust line of defence for the medics, paramedics and other personnel in the front line combating COVID-19," the statement said.

The industry is geared up for production of the suit in large quantities. Kusumgarh Industries is producing the raw material and coating material, with the complete suit being manufactured with the help of another vendor. The current production capacity is 7,000 suits per day.

Another vendor is being brought in with the experience in garment technology and efforts are on to ramp up the capacity to 15,000 suits per day.

The bio suit production in the country by DRDO industry partners and other industries are being hampered due to non-availability of seam sealing tapes, the statement said.

"The DRDO has prepared a special sealant as an alternative to seam sealing tape based on the sealant used in submarine applications. Presently, bio suits prepared using this glue for seam sealing by an industry partner has cleared test at Southern India Textile Research Association (SITRA) Coimbatore," it said.

"This can be a game changer for the textile industry. The DRDO can mass produce this glue through industry to support the seam sealing activity by suit manufacturers," the statement added.

<https://www.aninews.in/news/national/general-news/combating-covid-19-drdo-develops-bio-suit-with-seam-sealing-glue20200402220954>

THE ECONOMIC TIMES

Fri, 03 April 2020

Local defence technology helps fight Covid-19

More than half a dozen essential items—ranging from high protection face masks to full body protection suits and multi patient ventilators—have been churned out at high speed over the past week as the Defence Research and Development Organisation (DRDO) has reoriented itself towards fighting the prevalent threat

By Manu Pubby

New Delhi: From adhesives used in submarines to special coating originally designed for high strength parachutes, India has been using spin offs from its available defence technology to quickly develop low cost, high volume equipment desperately needed in the fight against Covid-19.

More than half a dozen essential items—ranging from high protection face masks to full body protection suits and multi patient ventilators—have been churned out at high speed over the past week as the Defence Research and Development Organisation (DRDO) has reoriented itself towards fighting the prevalent threat.

'Missile man' G Sateesh Reddy, who heads DRDO, said scientists throughout the country have been tasked with developing and sharing technologies at zero cost with the private sector to mass produce critical items identified by the government, with solutions being provided overnight and personnel working overtime to tackle stumbling blocks. Reddy, who is also a member of the empowered working group tasked with ensuring adequate supply of medical equipment, shared with ET that more products are likely to be rolled out in the coming days in partnership with the industry as new needs arise.

"The scientific fraternity has felt the need of the hour and wants to use existing skills to create spin off technologies. We are coming out with quick solutions and products. Scientists have been working day and night to rise to the occasion," Reddy told ET.

Even as DRDO—best known for its self-developed line of nuclear capable missiles that have given India its strategic deterrence—continues its regular work of design, analyses and review of weapon systems, several scientists and labs have been tasked to help civilian authorities on a war footing. And, innovative solutions have come forward that are being quickly tested and successful technologies being transferred to the industry free of cost to mass produce items. For example, there have been a large demand for personal protective equipment for medical staff.

<https://economictimes.indiatimes.com/news/defence/local-defence-technology-helps-fight-covid-19/articleshow/74958610.cms>

Coronavirus pandemic | DRDO develops bio suits for doctors, paramedics engaged in treating COVID-19 patients

Scientists at several DRDO laboratories were involved in developing the "bio-suit" which will act as Personal Protective Equipment (PPE) for the healthcare personnel

India's premier defence research institution DRDO has developed a "bio-suit" to protect doctors and paramedics engaged in treating coronavirus-affected people from the infection.

Scientists at several DRDO laboratories were involved in developing the "bio-suit" which will act as Personal Protective Equipment (PPE) for the healthcare personnel, officials said.

They said considering the high demand of PPEs across the country, steps are being taken to produce at least 15,000 suits per day.

India is currently reeling under increasing shortage of PPE for doctors and paramedics involved in taking care of coronavirus patients. The government is also scouting global markets to procure PPE, ventilators and N95 masks.



India has recorded over 1,965 positive cases of coronavirus and at least 50 deaths so far. Globally, the virus has infected more than 850,000 people and claimed around 42,000 lives.

"Scientists at various DRDO laboratories have applied their technical know-how and expertise in textile, coating and nanotechnology to develop the Personal Protective Equipment (PPE) having a specific type of fabric with coating," the defence ministry said in a statement.

It said the scientists have applied their technical know-how and expertise in textile, coating and nanotechnology to develop the PPE having a specific type of fabric with coating.

"The suit has been prepared with the help of the industry and subjected to rigorous testing for textile parameters as well as protection against synthetic blood," the ministry said.

It said the DRDO is making all efforts to ensure that these suits are produced in large numbers and serve as a robust line of defence for the medics, paramedics and other personnel in the front line combating COVID-19.

The current production capacity of the suit is 7,000 units per day.

An official said the bio-suit production by DRDO partners and other industries was hampered due to non-availability of seam sealing tapes. The DRDO has prepared a special sealant as an alternative to seam sealing tape based on the sealant used in submarine applications.

The official said the DRDO is providing 1.5 lakh litres of sanitisers to various security entities and other organisations across the country.

He said a five-layered face mask, N99, is being made on war footing using nanotechnology. A total of 10,000 masks have already been made and soon per day production will be extended to 20,000.

He said DRDO labs have also supplied 40,000 other face masks to Delhi Police.

The official said DRDO is also engaged in a minor modification of ventilators so that one machine can support four patients at the same time.

<https://www.moneycontrol.com/news/trends/current-affairs-trends/coronavirus-pandemic-275-indians-evacuated-from-iran-reach-jodhpur-5084491.html>

DRDO develops bio-suit for medical staff fighting COVID-19

By Akhil Kadidal

Bengaluru: Amid the clamour from medical professionals that there are not enough Personal Protective Equipment (PPE) available, the Defence Research and Development Organisation (DRDO) announced that it has developed a new hazmat suit.

In a statement, the DRDO said the suit originated out of a range of technologies developed to protect troops against chemical, biological, radiological and nuclear (CBRN) agents.

The DRDO said it developed the CBRN Permeable Suit Mk V for the army and the National Disaster Response Force (53,000 units had been supplied to these forces).

“The labs have applied their technical knowledge and expertise in textile, coating technology and nanotechnology into research to find a solution in the form of a bio-suit to fight COVID-19,” the DRDO said.

This resulted in finding a specific type of fabric with a specific type of coating for making a bio-suit that can keep the medical, paramedical and other personnel requiring PPE safe from the disease, it said.

The DRDO clarified that the suit has been subjected to rigorous testing for textile parameters as well as protection against synthetic blood. It added that mass production of the suit will begin soon.

Initial Problems

The DRDO said although a production capacity of 7,000 suits per day exists in the country, that another industry is being brought in with the experience in garment technology to ramp up the capacity to 15,000 suits per day.

Another hurdle was the non-availability of seam sealing tapes. DRDO said it has now prepared a special sealant as an alternative to seam sealing tape based on the sealant used in submarine applications.

<https://www.deccanherald.com/city/top-bengaluru-stories/drdo-develops-bio-suit-for-medical-staff-fighting-covid-19-820630.html>

The Tribune

DRDO develops bio suit for health workers

New Delhi: The Ministry of Defence on Thursday said the Defence Research and Development Organisation (DRDO) has developed a bio suit with a self-sealing seam. It will help protect the medical, paramedical and other personnel engaged in combating Covid-19 safe from the deadly virus.

The production of the suit or personal protective equipment (PPE) in the country was hampered due to non-availability of seam sealing tapes. The DRDO has prepared a special sealant, based on the sealant used in submarine applications, as an alternative to seam sealing tape. At present, bio suits prepared from using this glue by a private industry partner of the DRDO has cleared test at the Southern India Textile Research Association, Coimbatore.

The DRDO can mass produce this glue to support the seam sealing activity by bio-suit manufacturers. The suit has been subjected to rigorous testing to meet textile parameters as well as protection against synthetic blood.

<https://www.tribuneindia.com/news/nation/drdo-develops-bio-suit-for-health-workers-64829>

OdishaDiary

Fri, 03 April 2020

DRDO develops bio suit with seam sealing glue to keep health professionals fighting COVID-19 safe

New Delhi: Defence Research and Development Organisation (DRDO) has developed a bio suit to keep the medical, paramedical and other personnel engaged in combating COVID-19 safe from the deadly virus. Scientists at various DRDO laboratories have applied their technical know-how and expertise in textile, coating and nanotechnology to develop the Personal Protective Equipment (PPE) having specific type of fabric with coating.

The suit has been prepared with the help of the industry and subjected to rigorous testing for textile parameters as well as protection against synthetic blood. The protection against synthetic blood exceeds the criteria defined for body suits by Ministry of Health and Family Welfare (MoHFW).

The DRDO is making all efforts to ensure that these suits are produced in large numbers and serve as robust line of defence for the medics, paramedics and other personnel in the front line combating COVID-19.

The industry is geared up for production of the suit in large quantities. M/s Kusumgarh Industries is producing the raw material, coating material, with the complete suit being manufactured with the help of another vendor. The current production capacity is 7,000 suits per day.

Another vendor is being brought in with the experience in garment technology and efforts are on to ramp up the capacity to 15,000 suits per day.

The bio suit production in the country by DRDO industry partners and other industries are being hampered due to non-availability of seam sealing tapes.

The DRDO has prepared a special sealant as an alternative to seam sealing tape based on the sealant used in submarine applications. Presently, bio suits prepared using this glue for seam sealing by an industry partner has cleared test at Southern India Textile Research Association (SITRA) Coimbatore. This can be a game changer for the textile industry. The DRDO can mass produce this glue through industry to support the seam sealing activity by suit manufacturers.

The DRDO has developed a number of products and technologies for defence against Chemical, Biological, Radiological and Nuclear (CBRN) agents. Defence Research and Development Establishment (DRDE) Gwalior, a laboratory of DRDO, has developed Chemical, Biological, Radiological and Nuclear (CBRN) Permeable Suit Mk V. Fifty three thousand suits have been supplied to Army and National Disaster Response Force (NDRF).

For first responders attending to radiological emergencies, a reusable suit has been developed by Institute of Nuclear Medicine & Allied Sciences (INMAS) Delhi.

Aerial Delivery Research and Development Establishment (ADRDE) Agra has developed various types of parachutes with fabrics similar to protective technical textiles.

<https://orissadiary.com/amp/drdo-develops-bio-suit-with-seam-sealing-glue-to-keep-health-professionals-fighting-covid-19-safe/>

50 doctors and medical staff contract Covid-19, DRDO steps up work on protective gear

A DRDO lab has devised a special fabric that it says can protect healthcare workers dealing with coronavirus cases from an infection

New Delhi: Nearly 50 healthcare providers across the country have contracted the novel coronavirus, the Union health ministry said Thursday. The confirmation comes at a time medical professionals have been complaining of a lack of adequate equipment, including masks, to deal with coronavirus cases.

These 50 healthcare workers across India include doctors, nurses and other paramedical staff, according to ministry sources.

Covid-19 Risk to Healthcare Workers

The healthcare workers would have contracted the infection from three sources — patients, positive co-workers and people (doctors/personnel) who have travelled abroad.

Currently, there are over 1,700 active cases of coronavirus and 50 deaths have reported, while as many as 151 patients have recovered.

“Hospitals are now being trained to prevent hospital-related infections,” said a ministry official, who did not wish to be named. The official also refused to give any details on the doctors and the hospitals concerned.

Need for Personal Protective Equipment

Over the past 10 days, reports of healthcare professionals demanding more personal protective equipment (PPE) and safeguards have emerged. Several even took to social media to complain about the lack.

According to the World Health Organization (WHO), PPE consist of garments worn to protect healthcare workers or any other person from getting infected. These include gloves, medical masks, goggles or a face shield, and gowns, as well as for specific procedures, respirators (i.e., N95 or FFP2 standard or equivalent) and aprons.

DRDO Working on Special Suit

The Defence Research and Development Organisation (DRDO) has developed a new kind of PPE that is being sent out to medical teams.

The ADRDE, Agra, a laboratory of the DRDO that works with coating technology and nanotechnology, has developed a specific type of fabric to make bio suits that protect one from the virus, the DRDO said.

A prototype of the suit has been subjected to rigorous testing for textile parameters as well as protection against synthetic blood, the DRDO stated.

The protection against synthetic blood, which acts as a substitute for red blood cells, exceeds the criteria defined for body suits by Ministry of Health.

Kusumgarh Industries is producing the raw material and coating material, while the complete suit is being manufactured with the help of another company.

At present, the production capacity is 7,000 suits per day. The DRDO is looking to scale this up to 15,000 suits per day.

<https://theprint.in/health/50-doctors-and-medical-staff-contrast-covid-19-drdo-steps-up-work-on-protective-gear/393933/>

Army southern command procuring supplies, building capacity on ‘war footing’ to fight coronavirus

The Southern Command is geographically the largest Command of the Indian Army, spread across 11 states and four Union Territories including an island territory – in total, 40 per cent of India's geographical area

By Sushant Kulkarni

Pune: Pune headquartered Southern Command said Thursday that as part of the Indian Army’s ‘Operation Namaste’, it was procuring equipment, supplies and building capacity of medical formations ‘on war footing’ for extending assistance to state governments for the fight against COVID-19.

The Southern Command is geographically the largest Command of the Indian Army, spread across 11 states and four Union Territories including an island territory – in total, 40 per cent of India’s geographical area.

Officials from the Command said it has undertaken Operation Namaste to mitigate spread of COVID-19 in the southern states, which are emerging as the hotspots for the spread of the disease. Operation Namaste refers to the practice of greeting namaste instead of handshake to avoid physical contact.

Apart from quarantine facilities set up earlier, the Southern Command has more facilities in Rajasthan, Madhya Pradesh, Telangana and Tamil Nadu. The Command is also creating additional ad hoc isolation facilities in other states. Both the quarantine as well as isolation facilities have been provided with dedicated medical and administrative staff to take care of the patients.

official communication from the Southern Command said that ‘Army Corona Warriors’ comprising doctors, nurses and other support staff are in the forefront in this ‘atypical battle.’

“All efforts are underway to prepare for any contingency, which may occur and to augment civilian medical and other facilities. Procurement of medical equipment holdings and personal protective equipment are also underway on a war footing. The medical personnel and units are building their capacities and para-medical personnel are being prepared to assist civil administration of various states to contribute to the care of patients,” the Southern Command said in a statement.

Various units under the Army Wives Welfare Association (AWWA) are undertaking initiatives like distribution of cooked food, essential groceries and necessities in the vicinity of military stations under the Command. Blood donation camps have also been organised to recoup blood stock at the blood banks and this may be undertaken at other locations as well based on the requirement of the civil health agencies.

Meanwhile, the Army is ensuring regular contact and providing all necessary assistance to its veterans and their families.

<https://indianexpress.com/article/cities/pune/army-southern-command-procuring-supplies-building-capacity-on-war-footing-to-fight-coronavirus-6344668/>

After MiG-29 jets, India mulling offer of refurbished submarines from Russia?

The Kilo class are numerically the most important class of submarines in Indian Navy

The Indian Navy is examining a proposal by a Russian shipbuilding company to supply three refurbished 'Kilo' class diesel-electric submarines, a defence website reported on Thursday.

Jane's Defence Weekly reported Russia's state-owned United Shipbuilding Corporation made the offer in December last year. The company has also proposed to conduct refit work on three of the Indian Navy's existing class of Kilo class submarines to extend their operational lives by 10 years, *Jane's Defence Weekly* reported.

"The entire package—dubbed 'three plus three'—has reportedly been priced at \$1.8-2 billion," *Jane's Defence Weekly* reported. An

agreement was expected to be formalised at a meeting of Russian and Indian officials in Goa in March, which was cancelled on account of the coronavirus outbreak. The submarines on offer from Russia are reportedly ships that are about 30-years-old.



The Kilo class submarines, which run on batteries under water, are numerically the most important class of underwater vessels in the Indian Navy. India purchased a total of 10 Kilo class submarines, which are called the Sindhughosh class, with the majority delivered before the fall of the Soviet Union in 1991. The first ship, INS Sindhughosh, was commissioned in 1986. The 'youngest' Kilo class submarine in the Indian Navy was inducted in 2000.

Over the past two decades, India and Russia have worked to upgrade the Kilo class fleet with new sonar systems, electronics and weapons, including the Klub cruise missile, which can hit ships and targets on land. The ongoing upgrade will extend the operational life of these vessels to 35 years. Most of these submarines were upgraded at the Zvezdochka shipyard at Severodvinsk in Russia.

The Indian Navy's fleet of Kilo class submarines is estimated to number eight vessels currently. One Kilo class submarine of the Indian Navy, the INS Sindhurakshak, suffered extensive damage in a dockside explosion in Mumbai in 2013 that killed 17 sailors and was retired. Another ship, the INS Sindhuvir, is being transferred to Myanmar.

The offer from Russia for refurbished submarines comes as the Indian Navy grapples with a shortage in diesel-electric submarines, caused by the delays in the induction of the French-designed Scorpene class ships. The Indian Navy has also made slow progress on finalising a supplier for six new submarines under the Project 75I programme, which estimated to have a contract value of about \$7 billion dollars. The Indian Navy can induct the old Russian Kilo class submarines faster as it is familiar with the design and its equipment.

The Kilo class submarine has been exported to numerous countries including China, Iran and Vietnam. Russia is continuing to build an upgraded version of the Kilo class for its navy.

Fighter deal

Interestingly, the offer for the used submarines comes months after Russia confirmed that the Indian Air Force was planning to "urgently buy" 21 'mothballed' MiG-29 fighters. Last year, the CEO of Russia's MiG Aircraft Corporation claimed that a deal was being negotiated.

The government had granted preliminary approval for the deal, estimated to be valued at \$847 million, in February last year. The 21 MiG-29 jets are believed to be jets that were built in the Soviet era, but had not seen service.

Like the Kilo class submarine, the MiG-29 is a numerically important weapon for the Indian Air Force, with over 60 jets in service. The Indian Air Force has been upgrading the MiG-29 with new radars, electronics, weapons and increased fuel capacity.

<https://www.theweek.in/news/india/2020/04/03/after-mig-29-jets-india-mulling-offer-of-refurbished-submarines-from-russia.html>

hindustantimes

Fri, 03 April 2020

‘Prepare or suffer’: CDS Gen Rawat delivers blunt message on Covid-19 battle

He said that the army, navy and air force have moved into action by dedicating 17-18 hospitals to care for the infected, and the total bed capacity in the forces has been ramped up to 15,000 so far

By Shishir Gupta

New Delhi: India’s Chief of Defence Staff (CDS) Gen Bipin Rawat believes that India must break the Covid-19 virus chain by April 14, through the lockdown and social distancing, or be prepared to weather the long-term consequences of the pandemic.

“The military dictum is ‘prepare or perish’, but in these times of Covid we have refined it to ‘prepare or suffer’. We must arrest the spread of the virus through a 100% lockdown and social distancing by April 14. With the harvesting season around the corner, India cannot afford the numbers to go up. The military is totally prepared to stand up to the demands made by government and the people,” Gen Rawat said in a phone interview.



He said that the army, navy and air force have moved into action by dedicating 17-18 hospitals to care for the infected, and the total bed capacity in the forces has been ramped up to 15,000 so far. “We have hospitals ready even in far-off places like Dimapur and Zakhama in Nagaland, even though the virus has not spread in North-east India. We have now two to three hospitals ready in each zone to treat, manage and control the infection,” he said.

The CDS said that the military and its doctors were constantly in touch with the Union health ministry, and he, as secretary of military affairs, was attending meetings with PK Mishra, principal secretary to the Prime Minister, and cabinet secretary Rajiv Gauba.

Gen Rawat said that one ward in each hospital, including places such as Delhi where the base hospital is normally crowded, will be dedicated for Covid-19 patients. “We have created isolation and quarantine facilities in Jaisalmer, Jodhpur and Jhansi to accommodate 500 patients each for treatment, to add to the capacity of para-military facilities, such as the one in Manesar,” he said.

The single-point military advisor to the government said that since army, navy and air force schools are closed due to the lockdown, the premises can be prepared as quarantine centres. “We have three army public schools, one navy school and one air force public school in Delhi. It has been decided that these schools should be made ready to be made quarantine centres, if required. Even though the capacities of these schools is about 1,500 patients each, only 200 will be put up in each school due to proper sanitation requirements. The same model is being readied in other parts of the country if there is a requirement, or in a worst-case scenario.”

Gen Rawat also said that the defence ministry has made an important change in the procurement manual by allowing advance payments to be made to the manufacturers of medical equipment such as ventilators, masks and protection suits. “We have already placed an order of 370 ventilators with the DRDO {Defence Research and Development Organisation} and are asking ordnance factories also for manufacture of masks and PPE {personal protective equipment} suits. The power to make advance payments has been given to director generals of armed medical services, army commanders, corps commanders and brigade commanders so that there is no shortage of any medical supplies, both for troops and the public,” he said.

The CDS also said that two naval medical ships were ready to help neighbouring countries in case of a medical emergency. The air force, which recently flew a 14-member team to the Maldives, is prepared to ferry medical supplies in and out of the country.

Although Gen Rawat is optimistic that India can contain the virus, he is “keeping his fingers crossed” and hoping that “social distancing, lockdown, and the Indian summer heat” will end the threat.

<https://www.hindustantimes.com/india-news/must-break-virus-chain-gen-rawat/story-ERUFfxopfqFFkdD5r8MWVP.html>



Fri, 03 April 2020

Indian Su-30MKI fleet could reach staggering 350 fighters as HAL expects further orders for license production

India’s state owned Hindustan Aeronautics Limited has completed the production of all 272 Su-30MKIs under multiple contracts from the Indian Air Force to manufacture the aircraft under licence, and now expects the Air Force will place further orders for the jets.

Seeing its first flight in the year 2000, and entering service in 2002, the Su-30MKI is India’s only class of heavyweight fighter jet and by far the most capable platform in its fleet. The aircraft has been gradually modernised over its long production run, and today performs multiple roles from a precision bomber to a strike fighter, a maritime strike fighter, an ‘AWACS killer’ and a dedicated air superiority fighter.

The fighter is compatible with a wide range of munitions from the BrahMos cruise missile to the R-77 and Astra active radar guided air to air missiles, the SPICE guided bomb and the K-100 missile designed to engage enemy support aircraft at extreme ranges. In terms of flight performance the aircraft is unrivalled, with its speed, altitude, manoeuvrability and endurance far exceeding those of other Indian jets such as the Rafale and Mirage 2000.

The Su-30MKI is produced under licence from Russia’s United Aircraft Corporation, of which Sukhoi is a subsidiary, and forms the backbone of the Indian Air Force today with a dozen active squadrons. HAL previously requested that the Indian Defence Ministry provide an additional order for licence assembly of 72 Su-30MKI fighters, which would cost around \$5 billion – or around \$70 million per aircraft.

In an official statement on March 31st, the company expressed hope that the Air Force would order 83 jets, stating: “the order book is likely to attain a healthy position during the next financial year 2020-21.” The Indian Air Force currently suffers from a shortage of over 250 fighter jets, and intends to field 42 squadrons by the mid-late 2020 where it currently fields under 30.

<https://www.defenceaviationpost.com/2020/04/indian-su-30mki-fleet-could-reach-staggering-350-fighters-as-hal-expects-further-orders-for-license-production/>

Warships on standby, IAF transport fleet activated in wake of coronavirus pandemic

More than 8,500 doctors and staff are available to extend assistance to civilian administration

By Manu Pubby

New Delhi: The air force transport fleet has been activated to transport essential equipment and medicines and warships have been kept on standby for quick deployment as India gets ready to battle the most difficult phase of the Covid-19 crisis.

Defence minister Rajnath Singh, who took stock of preparedness levels of the armed forces on Wednesday, has directed that all support must be made available to the civil administration that is coordinating efforts to keep the situation under control.

While the armed forces have already made quarantine facilities available and defence public sector units are producing essential medical equipment, the air force has now been activated to transport medical supplies to Jammu and Kashmir, Ladakh, Manipur and Nagaland on an urgent basis, given the disruption in land transport.

The air force said it has airlifted 25 tonnes of supplies in the past three days and all of its transport fleet is now geared to meet emerging demands from across the country. The C 17 heavy lifter, AN 32 transport aircraft and even the C 130J Special Operations aircraft are now being tasked to ferry essentials on the request of civil authorities.

In addition, the smaller Dornier aircraft are being operated by both the air force and navy to carry samples for testing and medical teams that need to be sent on an urgent basis. "The medical supplies include personal protective equipment (PPE), hand sanitisers, surgical gloves, thermal scanners and medical personnel," the air force spokesperson said.

The navy is also keeping its warships on standby if assistance is required in transporting large quantity of goods to coastal regions and islands. While earlier, two amphibious warfare ships were kept ready for sending assistance to neighbouring nations if required, other ships can also be made available to transport critical supplies if the need arises.

The defence minister was informed by Chief of Defence Staff General Bipin Rawat that more than 9,000 hospital beds have been made available exclusively to deal with Covid-19 cases, besides the multiple quarantine facilities that are currently functional in different parts of the country.

The armed forces medical services will shortly be dispatching critical medical equipment to Nepal as well, with army chief General MM Naravane acting on the direction of the defence minister to provide all possible aid to neighbouring nations. More than 8,500 doctors and support staff are also available to extend assistance to civilian administration. Besides, the armed forces are also keeping retired health professionals at readiness to volunteer their services as the situation evolves. As many as 25,000 National Cadet Corps (NCC) cadets are being mobilised for local assistance in coordination with civilian authorities.

<https://economictimes.indiatimes.com/news/defence/warships-on-standby-iaf-transport-fleet-activated/articleshow/74937546.cms>

Karnataka exempts aerospace and defence firms from Covid-19 lockdown

By Ajai Shukla

In a decisive measure to protect Karnataka's companies that manufacture parts and systems for the assembly lines of global aerospace and defence (A&D) majors like Boeing and Airbus, the state government has exempted local A&D manufacturers from the nationwide anti-Covid-19 lockdown and permitted them to resume manufacturing activities with immediate effect.

"...The State Government hereby [exempts] industries supplying to Defence & Aerospace manufacturing... from the purview of the Lockdown and further to relax the restrictions imposed on the movement of workers and staff working in these industrial units," stated a circular issued on Wednesday by Gaurav Gupta, the principle secretary in Karnataka's commerce and industries department.

It is unclear whether the Karnataka government's action will be emulated by the governments of Telangana and Maharashtra, where A&D firms also have a significant presence. Tamil Nadu had declared A&D industries to be "essential public utilities" on March 24.

This comes as a relief to Karnataka's A&D manufacturing firms, consisting mostly of medium, small and micro enterprises (MSMEs) such as Dynamatic Technologies, Rossell India Ltd and Sasmos, who are, for certain components and systems, the sole suppliers to Boeing production lines in the US and the Airbus assembly line in Toulouse, France.

For example, Dynamatic builds "flap track beam assemblies" for all 58 single-aisle airliners that Airbus assembles each month. Without the on-time delivery of this crucial system, Airbus' assembly of A-318, A-319, A-320 and A-321 airliners in France (54 per month) and China (four per month) would grind to a halt.

Indian A&D firms believe that uninterrupted and timely supply remains critical for their credibility. In the US and France, A&D production continues, even as other factories and shops have been shuttered to stop the spread of Covid-19. The US federal government has ordered the A&D industry's 2.5 million employees to continue reporting for work, after the defence industry lobbied Congress and the Pentagon for a special dispensation on the grounds of national security.

In France, too, Airbus was closed for four days last fortnight, but then resumed production and assembly activities with the government's encouragement.

In these circumstances, Indian A&D firms are experiencing strong pressure to adhere to contracted supply schedules. This was highlighted over the weekend, when the highway police stopped a container truck transporting an Apache helicopter cabin, manufactured in Hyderabad by Tata Advanced Systems Ltd (TASL), to Mumbai for onward shipment to Boeing's Apache helicopter assembly facility in the US. Eventually, the Union government was requested to intervene to allow the truck to proceed to Mumbai, where the cabin was shipped to the US.

"For Indian firms supplying global majors, Covid-19 is both a threat and an opportunity. We could shelter behind *force majeure* clauses in our contracts to justify failure in meeting supply obligations due to the pandemic. On the other hand, we could demonstrate that, despite serious difficulties, Indian firms will deliver on time," says Udayant Malhoutra, chief of Dynamatic Technologies.

With this motivation, Malhoutra petitioned the Karnataka government to allow A&D production as a special exemption from the lockdown. "Karnataka's reaction was swift and decisive. The state government took just five days to issue the exemption order. Now it is up to us to resume production quickly," he said.

A&D firms such as Dynamatic have already implemented enhanced separation norms between workers and sophisticated Covid-19 awareness and prevention programmes. However, their

workers, many of whom live within walking distance of the production plant, will have to obtain curfew passes from the police to travel to work.

Indian A&D firms are carving out a steadily growing space as suppliers to global “original equipment manufacturers” (OEMs) such as Boeing, Airbus, Lockheed Martin, Bell Helicopters and others. Last year, Boeing sourced over Rs 7,000 crore worth of components and services from over 200 Indian companies, while Airbus sourced over Rs 4,500 crore worth of components and services from some 45 Indian companies.



Fri, 03 April 2020

Coronavirus pandemic | BCG vaccines cut death rate, study claims

The study analysed dataset from 178 countries of COVID-19 cases and deaths recorded from March 9-24

Countries with mandatory Bacillus Calmette-Guérin (BCG) vaccinations have a 10 times lower death rate from the novel coronavirus (scientific name SARS-CoV-2), compared to those without it, a new study has shown, The Economic Times reported.

The BCG vaccine is administered at birth in countries such as India, Japan and Brazil which have historically suffered from tuberculosis and is a part of their universal vaccination policy. Many rich countries such as the US, the Netherlands or Italy—all suffering widely from the disease—do not incorporate this.

The paper is co-authored by Paul Hegarty and Helen Zafirakis from Mater Misericordiae University Hospital in Ireland, Andrew DiNardo from the Baylor College of Medicine in, Houston, Texas, and Dr Ashish Kamath, a professor of Urologic Oncology (Surgery) and cancer research at MD Anderson Cancer Centre in Houston, Texas. It is presently under review for publication by science journals.

The study analysed a dataset from 178 countries of coronavirus disease (COVID-19) cases and deaths recorded from March 9-24 (15 days). This included 21 countries with no vaccination programme and 26 where the status is unspecified – both treated as having no programme.

It found that occurrence in countries without BCG vaccination was 358.4 per million compared to 38.4 per million in those with the vaccination. The death rate in countries without the vaccination programme is 40 per million compared to 4.28 per million in countries with the programme.

Dr Kamath said the protective effect of BCG was expected as “peer reviewed studies show effectiveness of BCG vaccine to confer protective immunity against viral infection”, but the magnitude of difference was “pleasantly surprising”.

Australia is already conducting a 4,000 people strong clinical trial for a candidate vaccine from BCG, but the level of immunity of those vaccinated at birth is still unknown. As of April 3, one million COVID-19 cases have been recorded globally.

People who received the vaccination as children would still have to be tested for whether the BCG-induced immunity remains if they need to be re-vaccinated, said Dr Kamath, cautioning that any policy decision would have to await the results of the clinical trial.

As per Dr Kamath, his institution is starting its own clinical trial with around 1,000 healthcare workers and has plans to expand as demand increases. The data will be under watch of the US Food & Drug Administration (FDA).

“We will vaccinate healthcare workers at highest risk first, such as those who work in emergency centres, ICUs and watch for how protective the vaccine proves,” he said and added that talks are also on for India to take part in the study.

The study does note that there may be “confounding factors in the correlation, but the trend is striking”.

<https://www.moneycontrol.com/news/india/coronavirus-pandemic-bcg-vaccines-cut-death-rate-study-claims-5103481.html>



Fri, 03 April 2020

COVID-19: new study finds evidence hinting at possible airborne transmission of novel coronavirus

As of April 2, the novel coronavirus pandemic has spread across 203 countries and territories around the world, killing more than 47,200 individuals and infecting more than 9.4 lakh people.

Most, if not all transmission of the virus thus far, has been observed to have taken place when an individual has come into contact with respiratory droplets and droplet nuclei emitted by infected persons through coughing, sneezing, talking, and direct/indirect touching.

Meanwhile, several other modes of transmission have also been discussed and studied since the outbreak of COVID-19. And now, a new study has found evidence that hints at the possibility of airborne transmission of the novel coronavirus, reports the South China Morning Post. In spite of its findings, however, the researchers have insisted that this “does not confirm the airborne spread” of the deadly virus just yet.

Airborne transmission of a virus occurs through tiny aerosol droplets which are smaller than 5 micrometers in diameter. These droplets can linger in the air for hours, and anyone inhaling them can effectively get infected with the said virus. In the case of the novel coronavirus, such transmission could also cause more damage, as the virus gets inhaled deep into the lungs.

To examine the likelihood of airborne transmission in the case of the novel coronavirus, researchers from the University of Nebraska Medical Centre and the National Strategic Research Institute at the University of Nebraska collected air samples from 11 rooms where 13 confirmed cases of COVID-19 were being treated.

After studying the samples, genetic material from the coronavirus—which was emitted by the patients—was naturally found in obvious places such as lavatories and daily-use items. But more importantly, 63.2% of the air samples collected from the inside of the rooms, and 66.7% of those taken from outside those rooms, also showed traces of the virus. The in-room samples had higher traces of the virus than those taken from the corridors.

The highest concentration of the virus’ genome, however, was found 2 metres away from a patient who was receiving oxygen through a nasal tube.

Such circumstances particularly increase the possibility of airborne transmission of COVID-19, says the World Health Organisation (WHO).

“In the context of COVID-19, airborne transmission may be possible in specific circumstances and settings in which procedures or support treatments that generate aerosols are performed; i.e., endotracheal intubation, bronchoscopy, open suctioning, administration of nebulised treatment, manual ventilation before intubation, turning the patient to the prone position, disconnecting the patient from the ventilator, non-invasive positive-pressure ventilation, tracheostomy, and cardiopulmonary resuscitation,” the WHO stated in a [scientific brief](#) on March 29.

Furthermore, Anthony Fauci, the director of the US National Institute of Allergy and Infectious Diseases and one of the top experts in this field, has also insisted that he simply could not rule out this possibility, due to the “limited evidence that some potential for airborne transmission exists”.

On the other hand, it is also important to not jump the gun, and interpret these initial findings carefully.

In its brief, the WHO highlighted one such experimental study that was recently published in the New England Journal of Medicine, which concluded that “people may acquire the virus through the air and after touching contaminated objects”.

However, not only was the experimental laboratory setting used in this study far different from a clinical setting, but the machines used to generate aerosols were too high-powered to accurately reflect normal human cough conditions.

Therefore, more research on this subject, particularly one that can be seamlessly applied to the real world, is an absolute must before airborne transmission of COVID-19 can be declared as a genuine possibility.

<https://weather.com/en-IN/india/coronavirus/news/2020-04-02-covid-19-study-possible-airborne-transmission-novel>