

# CROSSROADS

THE OFFICIAL NEWSLETTER OF THE PREMED SCENE



## Rising Stars in Medicine: Dr. Hussein Kanji

Dear medical newsletter readers,

Happiest February! Today, we bring to you the most recent news in medical research! Ilana Saidov is your fifth Rising Stars in Medicine writer, talking about Dr. Hussein Kanji and his work in the Extracorporeal Membrane Oxygenation Machine. Then, Ilana focuses on how fetuses can be impacted by maternal alcohol consumption. Next, Siri Nikku spreads greater awareness regarding the significance of maintaining oral health. Adeba Mukul talks about the dangers of alcohol-based disinfectants. Finally, I end by sharing more about findings related to alcohol interventions in primary care practices.

Please enjoy reading The Premed Scene's February 2023 Medical Newsletter! Till next month.

*Aprile Bertoma*

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# Rising Stars in Medicine: Dr. Hussein Kanji

BY: ILANA SAIDOV

Before the COVID pandemic became a reality, Dr. Hussein Kanji embarked on his new "passion project". His project focused on gaining knowledge in the Extracorporeal Membrane Oxygenation machine, or ECMO.

The ECMO was created in the 1970s and is currently used to treat patients with severe respiratory conditions. It is used when a ventilator is no longer an option for pushing oxygen into the lungs. Thus, the machine functions just as the lungs would and takes blood out of the body, oxygenates it through a pump, and sends it back in. Dr. Kanji's goal was to implement the ECMO for patients with lung disease. His project in 2018 allowed for more hospitals to acquire the ECMO and stabilize a multitude of patients.

During the height of the pandemic in 2021, Dr. Kanji saw the chance for the ECMO machine to serve as a lifeline for patients with COVID. Patients who did not have the option of being on a ventilator would actively be put on an ECMO. The doctor saw several of the sickest patients making progress with the ECMO. However, Dr. Kanji pointed out that ECMO is a complicated machine and is not a simple solution. He stated that using this machine would require a multi-faceted team of ICU doctors with ECMO expertise, nurses, respiratory therapists, and physiotherapists.



*"At VGH, the overall survival rate of patients using ECMO – most of whom would have died without it – averages 70%."*

The result of Dr. Kanji's work and expertise in the ECMO placed VGH in the gold level status with the Extracorporeal Life Support Organization (ELSO). Additionally, Dr. Kanji will receive the Gold Apple in the Collaborative Solutions category from the BC Health Care Awards.

## Source

Passion project saves lives of those in respiratory crisis. Doctors of BC. (2021, May 4). Retrieved February 27, 2023, from <https://www.doctorsofbc.ca/doctors-making-difference/passion-project-saves-lives-those-respiratory-crisis>

# The Impacts of Fetal Alcohol Exposure

BY: ILANA SAIDOV

Prenatal alcohol consumption of any amount and type has been found to negatively impact the health of a baby. This month, Dutch researchers have identified that alcohol consumption can change specific facial features of unborn babies. It has been concluded that even the slightest amount of alcohol was seen to cause a change in face shape.

Many individuals may wonder why it is imperative to pay attention to the way a child's face is developing. The study explained that a child's facial features are indicative of their development. An example can be seen with babies born with fetal alcohol syndrome, a condition that occurs as a result of alcohol consumption during pregnancy. The condition can cause irreversible physical defects and negatively impact the central nervous system. Thus, it was discovered that mothers who heavily drank alcohol during pregnancy had babies with pronounced facial features. These features include small eyes, a thin upper lip, a short nose, and smooth skin between the nose and upper lip. Overall, alcohol consumption can only negatively impact an unborn baby's health and development.

Scientists are utilizing artificial intelligence to discern patterns of face shapes among unborn children whose mothers drank during and before pregnancy. They found that the more alcohol the mother drank, the more pronounced the facial changes would be. Even low levels of alcohol consumption showed an impact on facial features. Thus, research has shown that women who are or want to become pregnant should stop consuming alcohol several months before conception as well as during their pregnancy. These precautions can prevent the various negative impacts of alcohol consumption on their children.

## Source

Prenatal alcohol consumption can change your baby's face shape - study. The Jerusalem Post | JPost.com. (n.d.). Retrieved February 27, 2023, from <https://www.jpost.com/health-and-wellness/pregnancy-and-birth/article-732233>





## Oral Health Awareness

BY: SIRI NIKKKU

Oral health is the state of mouth, teeth, and other facial and oral structures being able to breathe, eat, speak, chew, and feel confident in one's orofacial abilities socially as well. Oral diseases like cavities, gum disease, tooth loss, mouth cancer, and birth defects like a cleft lip. Oral diseases are one of the more common noncommunicable, or non-infectious, diseases that disproportionately affect low-and-middle-income countries. Diabetes, chronic conditions, respiratory illnesses, cardiovascular diseases, cancer, and other noncommunicable conditions have similar risk factors with oral diseases and conditions. The risk factors are tobacco use, alcohol consumption, sugar-high diets, and more that have been increasing internationally in the past decade. Having bad oral health can lead to general health being negatively impacted since someone having an oral condition like tooth ache can lead to people feeling uncomfortable and have difficulty in concentrating in school or work, resulting in isolation from various relationships. It is also a lot to maintain oral health with treating cavities and having braces, which can be a lot for a lower-income family to deal with.

Organizations like the World Health Organization (WHO) have been setting policies and methods for helping improve oral health worldwide through The Global Oral Health Status Report and The Global Strategy on Oral Health that records oral health in many countries and methods to treat certain conditions, respectively. There are also public strategies that can be done in communities like community water fluoridation and school sealant programs to save money and stop cavities from occurring. Going to the dentist is a good way of also making sure one's dental health is satisfactory to prevent any oral conditions and being better educated about how to clean one's teeth.

### References

[https://www.who.int/health-topics/oral-health#tab=tab\\_1](https://www.who.int/health-topics/oral-health#tab=tab_1)

[https://www.who.int/health-topics/oral-health#tab=tab\\_2](https://www.who.int/health-topics/oral-health#tab=tab_2)

[https://www.who.int/health-topics/oral-health#tab=tab\\_3](https://www.who.int/health-topics/oral-health#tab=tab_3)

<https://www.cdc.gov/oralhealth/conditions/index.html>

### WHAT PROBLEMS COULD POOR DENTAL HEALTH CAUSE?





## Are Alcohol-Based Disinfectants Dangerous For Premature Babies?

BY: ADEBA MUKUL

Hygiene in hospitals is important in any context, but when we discuss it in regards to premature babies and the neonatal intensive care unit (NICU), it become even more necessary. Premature babies in the NICU are often immunocompromised, therefore serious precautions are taken to prevent harmful bacteria and viruses from entering. One of these precautions is the use of alcohol-based disinfectants (ABDs), like hand sanitizers and ABD prep pads. Premature babies in the NICU are often placed in incubators to provide clean air and a warm, humid environment. However, when ABDs and incubators used in conjunction, the levels of alcohol absorbed by the infant could be very dangerous. Researchers at the University of Tsubaka in Ibaraka, Japan conducted a study to determine "the risk of exposure to ABDs...in premature infants in neonatal incubators."

28 premature infants were involved in this study, where their blood-alcohol levels (specifically ethanol) were tracked through static headspace gas chromatography-coupled mass spectrometry and evaporated alcohol in the incubator was tracked through volatile organic compound sensors. It was found that after applying measures developed to reduce the amount of alcohol exposed to the infants, infant BAC levels lowered to a degree that was not dangerous (as opposed to when ABDs were used with the experimental measures). It is alarming to find that alcohol absorption can occur through incubators, but there was not a followup to this study to report if infants suffered as a result of the alcohol exposure. Regardless, measures to reduce ABD exposure to infants (like waiting for ABDs to dry and wearing gloves after applying ABDs) should become standard practice, but there is a dearth of research on this subject, which will hopefully change.

Works Cited:

Hitaka D, Fujiyama S, Nishihama Y, et al. Assessment of Alcohol Exposure From Alcohol-Based Disinfectants Among Premature Infants in Neonatal Incubators in Japan. *JAMA Netw Open*. 2023;6(2):e230691. doi:10.1001/jamanetworkopen.2023.069

# Implementation of Integrated Alcohol Prevention

BY: APRILE BERTOMO

Alcohol use is typically asked about in medical settings, particularly in primary care during annual physicals or visits in which health issues potentially deriving from alcohol utilization are brought forth for checking. However, it has been surmised that unhealthy utilization of alcohol is not commonly evaluated in its entirety. In such a way, the integration of intervention systems in terms of alcohol use has been a subject of interest for researchers in internal medicine. A recent study conducted by Lee et al., specifically looked into this topic.

In this study, the researchers questioned whether intervention in the forms of electronic health record prompts and performance feedback for half a year in primary care offices would produce better outcomes in the realms of both prevention and treatment of alcohol-related health issues. The main purpose of the research study was to analyze whether specific intervention measures would enhance population-based prevention of alcohol utilization and diagnoses of alcohol use disorder (AUD) in primary care settings. Subjects were taken from the Sustained Patient-Centered Alcohol-Related Care (SPARC) trial, which consisted of 22 primary care offices in the state of Washington. Such alcohol intervention was based on three main branches- implementation in the practices, support via electronic health record use, and feedback on overall performance, as previously stated. The results of the research study conducted were, ultimately, slightly promising. The researchers found that the intervention proposed through SPARC was associated with moderate enhancement in prevention via shorter intervention; however, engagement in treatment of AUD remained unchanged. These results display the potential of greater emphases on treatment of alcohol-related issues in primary care offices.

Works Cited:

<https://jamanetwork.com/journals/jamainternalmedicine/article-abstract/2801752>

