

# CWSF 2020 - ,

## Keanu Chan

### Design, implementation and assessment of HEALIT

**Challenge:** Innovation

**Category:** Junior

**Region:** East Kootenay

**City:** Cranbrook, BC

**School:** Parkland Middle

**Abstract:** In order to rapidly treat traumatic bleeding wounds, I had previously developed a novel device under the acronym HEALIT (Hemostasis by Expanding Automatic Life-saving Innovative Technique). HEALIT was shown to significantly reduce the amount of bleeding in a traumatic wound simulator, enhance coagulation and provide the capacity to suppress infection. This innovation has been submitted for publication in the Canadian Science Fair Journal. In this present project, the HEALIT design has been used to manufacture a clinically applicable device. Assessment and implementation of the device was undertaken to optimize its usage.

### Biography

I am excited to participate at CWSF for the first time. I will be joining my older brother for his second time. I am a member of the U13 Whitecaps Soccer Academy and the local Rep Soccer Team. In the winters, I play hockey and snowboard. In the summer, I surf, kiteboard and have my open water PADI certification for SCUBA diving. In between sports and school, I compete in Speech and Dramatic Arts. My research project was inspired by the Lamborghini Terzo Millennio. When this vehicle is dented or scratched the carbon fibre body detects the damage and fills the cracks with nanotubes. I used to this concept to develop a self-inflating model to control traumatic bleeding in the human body. My project is now in its second year of development. I have created a third iteration of my innovation to further improve the capacity to treat traumatic wounds. In the future, I plan to test my innovation in the clinical setting. My best advice for future science fair students is to keep an open mind and realize that research ideas can come from almost anything in your life. The trick is to always "think outside the box".