Speak Out

MARCH ISSUE – HEALTH & WELLNESS

Food: "The Good, The Bad, and The Ugly"

Food is absolutely essential to an individual's health, whether it be mental or physical. Food has a major impact on the body and the mind. Those impacts range from good to bad. It is said that the stomach is our second brain and the same way we worry about mental health, we should worry about gut health. In this article, myths and stigmas will be debunked, awareness will be invoked... (Full article on page 3)

Overview & Benefits of Vaccines

Vaccines have undeniably played a critical role in the improvement of public health and in the way the scientific world perceives medical protocol and disease prevention. With the COVID-19 pandemic taking a detrimental toll on our everyday lives, the request for a vaccine has developed into an urgent need for one, and the race to produce it has led to the emergence of a variety of vaccines... (Full article on page 8)

Social Relationships: Effects on Health

To what extent are social relationships physically, mentally, and emotionally healthy? Well, there is no definitive answer since not all social interactions invoke a positive outcome. However, scientific and sociological studies have collaborated to prove how such relationships, when positive, do wonders for an individual's health. (Full article on page 15)

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Food: "The Good, The Bad, and The Ugly"

AYA ZEIN – 10IP

There are a few things that truly are crucial for life. One of those things is nutrition. Food is absolutely essential to an individual's health, whether it be mental or physical. Food has a major impact on the body and the mind. Those impacts range from good to bad. It is said that the stomach is our second brain and the same way we worry about mental health, we should worry about gut health. In this article, myths and stigmas will be debunked, awareness will be invoked, and hopefully every reader will learn something new.

We are all raised on the all-too-simple fact that junk food is bad. This is true to a certain extent. Let us first define junk food: *"Junk food" generally refers to foods that contribute lots of calories but little nutritional value* (https://www.webmd.com/diet/features/junk-food-facts#1). One often thinks of foods like pizza or burgers. However, that is when the definition of "junk food" becomes misconstrued. The connotation of, for example, pizza being a bad kind of food is problematic. A pizza, in its simplest form, provides carbs from the crust, fibre from the sauce, some fats from the cheese, and if you're feeling special, protein from a meat of your choice and vitamins from veggie toppings. Does this comply with the villainized "junk food" we talk about? Absolutely not – it is actually quite a balanced food. The confusion comes in when one is talking about fast food pizza. True junk food is the food drenched in oils, food colouring, and preservatives. However, we should still have 'junk' food... in moderation. Junk food is bad when you eat too much. In excessive amounts, true junk food can cause higher risk of obesity, depression, digestive issues, heart disease and stroke, type 2 diabetes, cancer, and even early death. The best way to go about food is to be intuitive and mindful. If you crave brownies, have a brownie – but just one. Make it a habit to honour your cravings and recognize when you are full. It is often best to kickstart this habit with the 80:20 method; 80% balanced and healthy food and 20% whatever you want.

On the opposite end of the spectrum, we have "superfoods" and fad diets. They are the health foods like chia seeds, avocadoes, quinoa, kale and the diets like keto, paleo, the 5:2, etc. You often hear of their miraculous effects and of how life-changing they are. Just like connotation that all "junk foods" are automatically unhealthy, this connotation can be harmful. As mentioned previously, moderation is key. These superfoods and diets are prominent in what is depicted as "perfect" and "healthy" eating – often unsustainable eating, however. While these foods are high in nutritional value, they are brought to popularity as *fads*, trends that come and go. These fads often nurture obsessing over the content of your food and demonize junk food even more. Superfoods are often marketed as miracle foods for weight loss and things of that nature. However, there is no food on the planet that actually causes weight loss. There is always mass misinformation in terms of superfoods because they are often marketing ploys. These foods often create the notion that they are the only means of being healthy. The same way people get addicted to fast food, people become addicted to "healthy" food. This is when the notion of "healthy" food becomes not so healthy. In worst cases, people develop an eating disorder called orthorexia. Orthorexia is the obsessive behaviour of only eating "healthy" food. Most people don't get to this stage; however, most are sucked into diet culture. Diet culture is sugar-coated orthorexia inflicted by influencers and models. Teens and even children on social media listen to their advice on being "healthy" and "fit". They often use clickbait terms like "beach bod", "weight loss", etc. to advertise placebo practices and absurd life hacks like drinking apple cider vinegar and lemon water. (PS: All literature up to this day do not back up any of the claims that the previously mentioned concoctions promote weight loss or even help with digestion. All claims approving it are anecdotal, the science still hasn't confirmed anything.) Is eating healthy food bad? Not at all, you need to eat healthy food. Is health food *obsession* bad? Yes. Eat moderately, mindfully, and intuitively. If you don't feel like having a

green avocado chia "health miracle" smoothie, you don't have to. You should eat whatever you want, mindfully.

With all the previously mentioned info in mind, you can assume food can be stressful for a lot of people. Food and social factors cause eating disorders. Eating disorders are very serious. Eating disorders have the most fatalities per year than any other mental health issue. They are terribly tiring and often take a very long time to overcome. They include Anorexia Nervosa, Binge Eating Disorder, Other Specified Feeding and Eating Disorders (OSFED), Bulimia, Avoidant Restrictive Food Intake Disorder (ARFID), Rumination Disorder, and Unspecified Feeding or Eating Disorder (UFED). Food should be one of the least worrying things. However, this is not the case for everyone. In a society where we have so much access to information and influencers, it is very easy to be sucked into this cycle. We are shown daily what the "ideal body" looks like. This idea differs from person to person but, predominantly, it is the curvy and very thin body for girls and the tall and muscular for boys. These bodies are often unobtainable, whether it be due to genetics or the other means of obtaining them. Impressionable children and teens do not realize this. Due to the praise these influencers and models get for their bodies, an innocent and impressionable growing teen becomes insecure and thinks, "Why don't I look like that?" and then further, "How can I look like that?". The fact of the matter is that beauty comes in all shapes and sizes, within healthy measures. You do not need to look like Victoria's Secret or Calvin Klein models. You truly don't. The notion that you do often leads to insecurity and, worse, eating disorders. Eating disorder symptoms, generally summarized, consist of restricting food, obsessing over calories, over-exercising, induced vomiting, obsessing over nutritional value, and binging on food. Sometimes it's one symptom, sometimes it's a few, and sometimes it's all of them. Eating disorders cause problems like loss of bone and muscle mass, fatigue, disruption of gastrointestinal function, heart complications, disruption in the endocrine system (girls sometimes lose their period), and often it goes hand in hand with depression.

Food is great. Managing it simply should not be this complicated and for many people it isn't. Unfortunately, for others, sometimes it is complicated and, moreover, life-threatening. As someone with an eating disorder and now recovering, I urge you to accept and love yourself the way you are. Yes, Kendall Jenner is beautiful, but so are you. You need not compare, no matter how much society and social media tells you to. I faced multiple health complications as a result of my eating disorder; My immunity was compromised, I developed joint problems, and could not get my period anymore. Emotionally, I was drained but simultaneously and constantly preoccupied with my food intake and the quality of my intake. It is exhausting and more importantly, not worth it in the slightest. Today, I'm trying to get used to eating specific foods again but, some days, I face problems eating food in general. Recovery is not linear nor is it immediate. If a friend is feeling insecure, reassure them and remind them they don't need to be. If you know someone struggling with an eating disorder, please help them and ask them to get help. I've encountered individuals that deny the seriousness of eating disorders. This is inconsiderate; Please be considerate of people struggling and refrain from using triggering phrases like, "Why don't you just eat?", "You don't look like you have an eating disorder", "You've eaten so much/little!", etc... Especially in a country like Lebanon, where even depression is misunderstood, you need to be aware and educated. In conclusion, food truly is great and trusting your body is the only sustainable diet in the world.

Sources to further educate yourself on eating disorders or reach out for help:

https://www.meeda.me/
http://www.aubmc.org/clinical/Psychiatry/Documents/EATINGDISORDERPROGRAMENG.pdf
https://aubmc.org.lb/clinical/Psychiatry/Pages/main/Eating-Disorder-Program.aspx
https://www.drgebrane.com/eating-disorders
http://www.mlh.com.lb/eating-disorders-a-relationship-with-food/
https://embracelebanon.org/eating-disorder/

Theta Healing

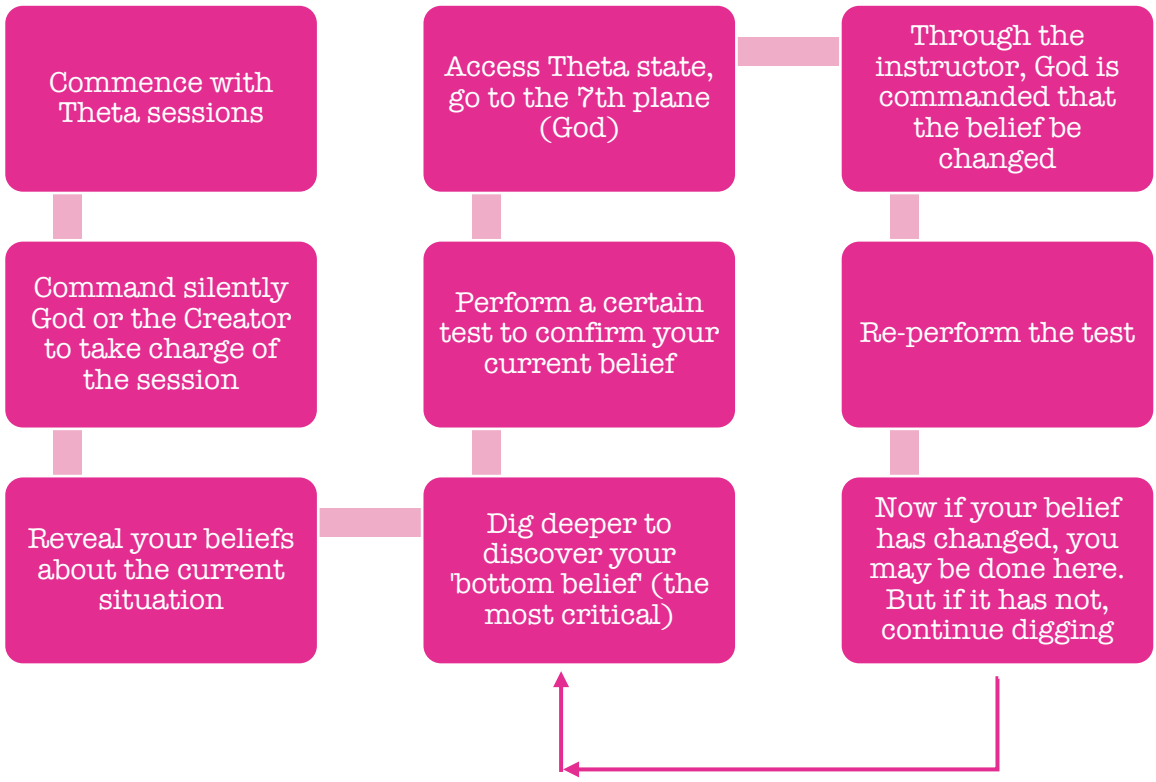
GIO ABBOUD – IB1

The eighth letter of the Greek alphabet, Theta, is also described as the state of mind in which the assumption that anything can be altered helps to produce positive results. Theta is defined by believers as a brain wave in which one can enter a gateway to a plane where immediate changes are possible and instant healing can occur in certain instances. It's all a state of mind in the real world which manifests itself.

What is it?

Well, Theta Healing is a prominent form of healing that Vianna Stibal formed in 1995 during her life struggle of healing from cancer. This method is a meditation technique and a spiritual philosophy, according to the official Vianna Stibal ThetaHealing website. This training program is designed for the body, mind, and spirit and gives one the ability, through prayer and meditation, to get rid of constraining views and live a life filled with positive thoughts.

Its Processes

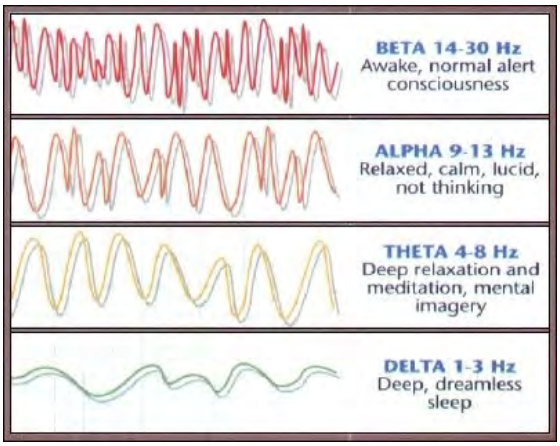


The Brain States

Five major brain frequency waves are available: Beta, Alpha, Theta, Delta, and Gamma. These brain waves are in continuous motion, and at all frequencies, the brain generates consistent waves. The strength of brain waves controls everything you do or say. For instance, when we talk to others, our mind is in Beta.

A condition of very deep relaxation is the Theta State; it is used in hypnosis and during REM sleep. At a frequency of 4-7 cycles per second, brain waves are slowed down. To reach this condition, people meditate consecutively for hours, in order to have access to pure calm. The

subconscious can be called the Theta brain waves; they control the portion of our mind that lies between the conscious and the unconscious and maintains memories and emotions. Guide your convictions and your actions as well. Theta waves, marked by feelings of inspiration and which are very spiritual, are often innovative. This mental state is believed to allow you to function below the level of the conscious mind.



Scientists have found that certain frequencies of brain waves (particularly Alpha and Theta) may serve to: (ThetaHealing.com)

1. Relieve stress and promote a lasting and substantial reduction in people prone to anxiety states.
2. Facilitate a deep physical relaxation and mental clarity
3. Increase verbal ability and also the performance IQ, verbal.
4. Better synchronize the two hemispheres of the brain.
5. Recall mental images live and spontaneous imaginative and creative thinking.
6. Reduce pain, promote euphoria and stimulate the release of endorphins.

Benefits of Theta Healing

There have been little scientific studies on its clinical benefits, considering that Theta Healing is a fairly new modality. A meditative state, however, is a crucial component of Theta Recovery, and there is a wide body of evidence that indicates that meditation offers benefits such as reduced anxiety and helps in stressful conditions through emotional control. The spiritual component, which has been documented to aid in the recovery of a patient, is another key factor.

Theta Healing is a therapeutic approach designed to support your mind and body. A single session is meant to create improvement as therapists help you release unhelpful subconscious attitudes, such as feelings of becoming a failure or feeling undeserving of success, as it helps to reprogram the unconscious mind. Changing your thoughts will lead to different decisions, new actions being made, and different outcomes being achieved.

Theta Healing can assist in relieving symptoms related to:

- Addictions
- Anxiety and stress
- Balance
- Clarity/Focus
- Confidence
- Creativity
- Emotional issues
- Fears and phobias
- Happiness
- Life crisis
- Loneliness
- Personal development
- Problem-solving
- Relationships
- Relaxation
- Self-esteem
- Stress management

What to Expect from Theta Sessions

While unravelling your subconscious mind and empowering you to achieve your highest potential, ThetaHealing will help you release emotional barriers and restrict beliefs. Sessions, which range from physical, emotional, spiritual, and auric, can explore any and all facets of the self. In accordance with conventional medicine, ThetaHealing works, but it does not substitute for medical advice.

Getting in Touch

What I would personally recommend is to join one of the Theta Healing seminars, taught by a well-respected, specialized and certified theta healer, linked below, for beginner or advanced levels, all focusing on You and your relationships with all that's around you.

Sources

- http://www.rebootandreroot.com/
- https://www.dnaindia.com/lifestyle/report-heard-about-theta-healing-1935482
- http://www.positivehealth.com/article/healing/theta-healing-accessing-the-theta-brain-state-to-let-go-of-limiting-beliefs
- https://www.souladvisor.com/therapy/energy-medicine/theta-healing
- https://www.thetahealing.com/
- http://www.rebootandreroot.com/healing/seminars

Overview & Benefits of Vaccines

ADRIANA GORAIEB – IB2

From the worldwide eradication of smallpox in 1980, to the elimination of rubella cases from the Americas in 2015, vaccines have undeniably played a critical role in the improvement of public health and in the way the scientific world perceives medical protocol and disease prevention.

With the COVID-19 pandemic taking an obviously detrimental toll on the everyday lives of the global population, the request for a vaccine has developed into an urgent need for one, and the race to produce it – monitored by the World Health Organization – has led to the emergence of a variety of vaccines, some of which are promising enough to be rolled out for public use.

Before discussing the benefits and history underlying the success of vaccines, below is a small overview of a few COVID-19 vaccines that have been produced/ are under production:

Company	Overview
Pfizer-BioNTech	It's an mRNA vaccine which codes for the virus' spike protein. At Phase III trials, it showed 95% effectiveness. Requires 2 shots, 3 weeks apart.
Moderna COVID-19 Vaccine	Also an mRNA vaccine, recommended for people aged 18+. It demonstrates 94.1% efficacy after 2 doses. Requires 2 shots, 4 weeks apart.
Oxford-AstraZeneca	It is based on the virus's DNA (Moderna & Pfizer are RNA-based). Requires 2 shots 12 weeks apart for maximum efficacy (81.3%).
Beijing Minhai Biotechnology (China)	Phase 1 of this activated began on October 2nd (180 adult patients were involved) & is still underway.
Merck/Dohme/Iavi (USA)	The vaccine will use the recombinant vesicular stomatitis virus technology which formed the basis for the Ebola vaccine, which proved to be successful in the elderly as well as young, healthy adults.
Vector Institute (Russia)	The protein sub-unit vaccine, known as EpiVacCorona, was declared, by President Vladimir Putin, approved by the Russian government & ready for delivery, although it has not begun phase 3 yet.

BRIEF OVERVIEW OF THE 3 PHASES OF VACCINE DEVELOPMENT

Phase 1: evaluate the vaccine's safety; determine the appropriate dosage; identify potential side-effects

Phase 2: further explore safety + investigate effectiveness in large group

Phase 3: Confirm safety of vaccine using a trial group of thousands of people & test for rare side effects that only show up in a large group of people.

BRIEF OVERVIEW OF THE DIFFERENT TYPES OF VACCINES

1. Whole Virus Vaccine

a. **Live attenuated vaccines** inject weakened forms of the virus (can replicate in body cells) to stimulate an immune response (the body detects the virus as a foreign body and develops antibodies to fight it)
   i. **There is a risk** involved in using live attenuated vaccines with the immunocompromised (elderly people, young children, sick individuals) but it can still be very effective at triggering long-term immune response.

b. **Inactivated vaccines** use viruses whose genetic material (DNA or RNA) was destroyed (they can't replicate) but can still trigger an immune response.

2. Protein Subunit Vaccine

a. These vaccines use fragments of protein from the virus to trigger an immune response
b. This minimizes the risk of side effects (unlike whole virus vaccines), but the immune response is weaker
c. Thus, these vaccines involve the additional use of adjuvants which serve to boost its effectiveness (triggers the production of more antibodies)

3. Nucleic Acid Vaccines (e.g. mRNA vaccines)

a. **These vaccines use genetic material from the virus** to provide body cells with the instructions needed to produce the virus's antigens, which will subsequently trigger an immune response.
b. These vaccines are easy to make & cheap, and since the antigens are produced in our own body, the immune response is quite strong and long-lasting

4. Viral Vector Vaccines:

a. **These vaccines also deliver genetic material from the virus** to body cells but use a different and harmless virus as a carrier of the genetic material. The same mechanism as with nucleic acid vaccines is involved.
b. **They mimic natural viral infection** and so trigger a very powerful response. However, a related issue is the possibility that patients have been previously exposed to the virus used as a vector & have developed immunity to it, so the vaccine becomes ineffective.

So, are vaccines beneficial? Should I be vaccinated?

Short answer: **YES, YES and YES**. It is undeniable that vaccines are 100% effective and have led the fight to eradicate several dangerous diseases, including mumps, measles, polio, and more. Several arguments against vaccines – which have been disproven – include the following:

1. Vaccines cause autism → multiple studies have proven time and time again that vaccines **do not cause autism.** This is a misconception and unfortunately the ultimate reason for the majority of antivaxxers' decision to oppose vaccines.
2. It is believed that injecting any part of a virus is unsanitary and unethical: Firstly, the process of purifying vaccines as well as sterilizing the medical equipment used to deliver them (needles, droppers (for oral vaccines)) ensures maximum sanitation during vaccine delivery. Secondly, vaccination creates herd immunity and protects an entire community from a certain disease, and, from an ethics point of view, it is in favour of every individual member of a community to vaccinate. At this point, it may be considered unethical **not** to be vaccinated, as you put everyone else around at risk of infection.

The way vaccines work is the following: when your white blood cells identify a virus's antigens (unique identifiers on the surface of viruses) in body cells, T-cells (a type of WBC) will begin to produce specific antibodies to attack it. At the same time, memory cells will be produced in the process, and they serve the function of retaining long-term immunity – in the case that the same virus enters the body later on, the memory cells will "remember it" from the first instance of exposure & the body's immune system will immediately attack it, thus protecting the body before any symptoms develop. Since vaccines involve either portion of the virus or weakened forms of it, the risk of getting sick from it is extremely low, and in the case that the illness develops, only mild symptoms will show.

So, what exactly are the benefits of vaccines? Here are 5 extremely important advantages of getting vaccinated.

1. **Protects individuals from life-threatening diseases** (and are also part of the reason for which the average human lifespan is longer)
    a. Polio, for instance, was one of the leading causes of death and paralysis in children in the United States, but today, after the introduction of the vaccine in 1955, there are **no reported cases of the disease.**
    b. There are two ways to become immunized to a certain viral disease: the first is to actually contract the virus, and the second is to be vaccinated with a portion or a weakened version of it. While the former does not guarantee recovery and may lead to long-term consequences, the latter triggers an immune response without the individual suffering from the disease's symptoms, while still being protected from the disease for life.

2. **Prevents the spread of disease to other people:**
    a. Certain immunocompromised individuals (newborns, HIV/ AIDS patients, leukaemia patients, the elderly, etc.) are too weak to successfully receive immunization by vaccination. In other words, they do not have the physical capacity to protect themselves from preventable viral diseases. However, if you and other people who visit/ care for those immunocompromised individuals get vaccinated, you are playing a role in preventing the spread of the disease to them.

3. **Vaccinations save time and money.**
    a. For starters, it would be much cheaper to vaccinate and prevent the development of a disease than to treat it. Hospital bills are, for the most part, unaffordable without insurance, and still some families are unable to cover the cost of medical care and hospitalization. This reaffirms the economic advantages of vaccination, as you would be avoiding the situation of having to pay hefty medical bills post-treatment.
    b. From another perspective, some vaccine-preventable diseases result in life-long disabilities which lead to lost time at work, and, in addition to life-long medical care and other medical bills, this costs a lot of money which would otherwise not have been lost had the body been protected from acquiring the disease in the first place.

4. **Protects unborn children**
    a. If a woman contracts a virus while pregnant, there exists the risk of her passing the virus down to her unborn child, and unfortunately this leads to the formation of virus-related birth defects including microcephaly (having a shorter-than-normal head), brain abnormalities, hypoxia (oxygen deficiency), hypoglycaemia, and several more. By being vaccinated in the first place, her baby will not risk contracting any harmful viruses before leaving the womb.

5. **May lead to the eradication of certain diseases**
    a. In the case that an entire population (or even just 90%) is vaccinated against a certain viral disease, the ability of the virus to spread from individual to individual becomes near impossible. By limiting the spread of the virus and protecting the majority (or all) of a population, a disease can be totally eliminated in that community.

Now, the next question to be answered would be the following: in the case that a COVID-19 vaccine – which has passed all 3 phases – emerges, should I get it?

Simple answer: Yes, you should – not only for your personal benefit, but out of consideration of a greater cause – the protection of your community. Many argue that the reliability and validity of the vaccines are questionable due to the short time taken to develop them. However, one must acknowledge the vast technological advancements which have taken place since Edward Jenner first discovered vaccinations in 1796. The techniques to create vaccines have been developed over centuries, and a heightened understanding of how viruses work facilitated the process of isolating the material needed from the coronavirus to develop a vaccine against it.

Nonetheless, we know that the vaccines we get at our doctor's appointment today have been tested over and over again over a number of years (and with obvious success, otherwise they wouldn't be given to us). The race to develop a COVID-19 vaccine has only begun in around March 2020, the virus is a totally new one to us, and too many claims of "approved" vaccines have been raised with no evidence whatsoever. It's also difficult to predict the long-term effectiveness of the vaccine, since that requires years of public health surveillance, which the world is yet to conduct. We are currently living in a state of total uncertainty, and the sudden emergence of such a great number of vaccines in such little time is bound to raise some eyebrows. Nonetheless, we should trust the science and the researchers (whom we should thank as well) who have been working extremely hard to find a vaccine to overcome the pandemic since early 2020. At this point in time, we must be patient, and hope that the world's pharmaceutical companies hold our best interests at heart and that they complete their job with utmost transparency and care.

Works Cited

Boulanger, Amy. "Anti Vaxxers: Understanding Opposition to Vaccines." *Healthline*, Healthline, 15 Sept. 2017, www.healthline.com/health/vaccinations/opposition.

"The COVID-19 Vaccine Race." *Gavi* , Global Alliance for Vaccines and Immunisation, 2 Dec. 2020, www.gavi.org/vaccineswork/covid-19-vaccine-race.

"Five Important Reasons to Vaccinate Your Child." *Vaccines.gov*, Jan. 2018, www.vaccines.gov/get-vaccinated/for_parents/five_reasons.

Saleh, Naveed. "5 Infections That Lead to Birth Defects." *Verywellfamily*, Very Well Family, 18 May 2020, www.verywellfamily.com/infections-that-cause-birth-defects-4140389.

"There Are Four Types of COVID-19 Vaccines: Here's How They Work." *Gavi* , Global Alliance for Vaccines and Immunisation, Oct. 2020, www.gavi.org/vaccineswork/there-are-four-types-covid-19-vaccines-heres-how-they-work.

Sleep & the Immune System

STEPHANIE ZOGHBI – IB1

Sleep. Something we look forward to after a long day and which has some of the greatest benefits to offer to our health. We often ask ourselves, what amount of sleep should I be getting and why? All this relates to our immune system and general health, be it physical, mental or social.

Sleep in itself is defined as a condition of body and mind that recurs for several hours every night, in which the nervous system is relatively inactive, and consciousness practically suspended. When we fall asleep, our breathing is slow and we make little sounds and movements – yet the brain and many other body parts are still hard at work keeping you, well, alive.

Falling asleep starts with a neurotransmitter (a chemical released in our brain) that acts on your neurons to tell your body whether to sleep or to stay awake. The neurons will then switch off any signals that might tell your brain to stay awake. We then go through different stages of sleep:

1. non-REM (rapid eye movement) sleep, the changeover from wakefulness to sleep.
2. non-REM, a period of light sleep before you enter deeper sleep.
3. non-REM, deep sleep so that you feel refreshed in the morning.
4. REM sleep occurs after 90 minutes – your eyes move rapidly, and dreams begin occurring.

Immune System (Physical Health)

Now how does this relate to our immune system? Well, lack of sleep actually affects your immune system massively.

During sleep, our immune system (which is our system that fights against disease) releases proteins called cytokines, and this promotes sleep. These cytokines increase in number when fighting against infection or inflammation or when you're stressed.

When you're sleep deprived, the number of cytokines may decrease, and infection-fighting antibodies and cells are reduced in number. In other words, your body loses its ability to properly defend itself against infection when you lack proper sleep, as it needs to sleep and rest in order to produce these cytokines and fight infection.

Immune System (Mental Health)

When sleeping, your body rebuilds muscles you've worn out during the day and removes toxins from your brain that accumulate while you're awake. It also affects your mental health since it regulates your emotions. In fact, it's been shown that being sleep deprived for one night can increase your emotional response to negative feelings by 60%.

In an article written by Harvard Medical School, those diagnosed with mental health problems are more likely to have insomnia or other sleep disorders and those who have depression, anxiety, bipolar disorder and ADHD are also more likely to experience sleep problems.

Scientists are still trying to tease apart all the mechanisms of sleep. However, they have discovered that sleep disruption can affect the levels of neurotransmitters and stress hormones as well as other things, and all this can affect our brain activity – our thinking and emotional communication. Thus, cases of insomnia may increase the effects of psychiatric disorders and vice versa.

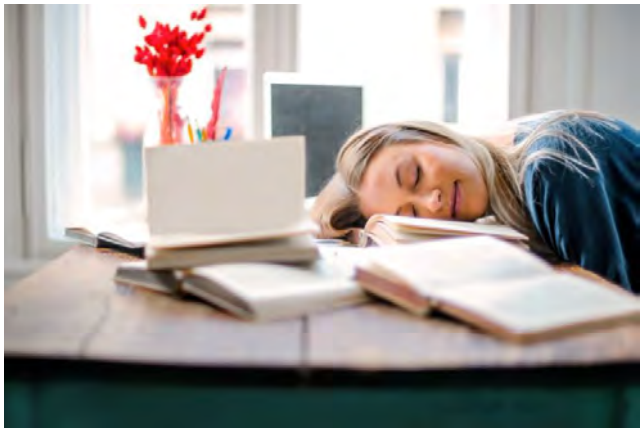
	Age Range	Recommended Hours of Sleep
Newborn	0-3 months old	14-17 hours
Infant	4-11 months old	12-15 hours
Toddler	1-2 years old	11-14 hours
Preschool	3-5 years old	10-13 hours
School-age	6-13 years old	9-11 hours
Teen	14-17 years old	8-10 hours
Young Adult	18-25 years old	7-9 hours
Adult	26-64 years old	7-9 hours
Older Adult	65 or more years old	7-8 hours

So how much sleep do you need?

The adjacent image shows the recommended amount by the National Sleep Foundation. However it depends based on your lifestyle. If you have an active lifestyle, you'll likely require more sleep since your muscles and brain are put under more pressure than, say, those of an inactive individual. Therefore, you would need more sleep in order for your body to relax and recover.

Tips to fall asleep:

1. Lower the temperature of the room
2. Get on a sleep schedule
3. Experiencing both daylight and night (in the day expose yourself to bright light and at night, dark)
4. Practicing yoga, meditation and mindfulness
5. Avoiding naps during the day
6. Not eating too late before bed
7. Listen to relaxing music (we recommend SZA)
8. Exercise during the day
9. Turning off all electronics
10. Practicing writing before bed



To conclude, sleep is necessary for our vital organs to function and for our mental health to stay healthy. Although getting sleep may be inconvenient and out of reach sometimes, we must try to make it a priority for our health and try to get our recommended hours.

Works Cited:

"How Does Sleep Work?" Sleep.org, 18 Nov. 2020, www.sleep.org/how-sleep-works/.

"Sleep"- Definition from Oxford Languages

"Brain Basics: Understanding Sleep." National Institute of Neurological Disorders, www.ninds.nih.gov/Disorders/Patient-Caregiver-Education/Understanding-Sleep.

"Can Lack of Sleep Make You Sick?" Mayo Clinic, Mayo Foundation for Medical Education and Research, 28 Nov. 2018, www.mayoclinic.org/diseases-conditions/insomnia/expert-answers/lack-of-sleep/faq-20057757.

"How Much Sleep Do We Really Need?" Sleep Foundation, 31 July 2020, www.sleepfoundation.org/how-sleep-works/how-much-sleep-do-we-really-need.

"How Many Hours of Sleep Do You Really Need? - Healthline." Healthline, www.healthline.com/nutrition/how-much-sleep-you-need.

Semeco, Arlene. "20 Simple Tips That Help You Fall Asleep Quickly." Healthline, 2020, www.healthline.com/nutrition/ways-to-fall-asleep#4.-Experience-both-daylight-and-darkness.

Publishing, Harvard Health. "Sleep and Mental Health." Harvard Health, www.health.harvard.edu/newsletter_article/sleep-and-mental-health.

Social Relationships: Effects on Physical and Mental Health

THALIA KATTOURA– SEC 3 LP

"The surprising finding is that our relationships and how happy we are in our relationships have a powerful influence on our health. Taking care of your body is important but tending to your relationships is a form of self-care too. That, I think, is the revelation." - Robert Waldinger, a psychiatry professor at Harvard Medical School.

To what extent are social relationships physically, mentally, and emotionally healthy? Well, there is no definitive answer since not all social interactions invoke a positive outcome. However, scientific and sociological studies have collaborated to prove how such relationships, when positive, do wonders for an individual's health.

Human beings are social creatures; not only do they require social relationships for a stable emotional state, but it is also crucial to their survival as a species. Therefore, a social relationship is any relationship with another human being: including familial, friendly, romantic, and professional connections.

Think about a time when a social interaction made you uneasy and another that made you feel overjoyed. Social relationships do have a tremendous impact on a person's mental health, whether it is a negative or a positive one. A study conducted by scientist Richard Slatcher and his team has shown that people who can maintain a healthy marital relationship experience decreased cortisol levels, a hormone responsible for stress. The research concentrated on approximately 1000 adults, whose relationships and ways of communication were studied. The researchers then proceeded to examine their levels of cortisol using samples of their saliva. Expectedly, the data demonstrated a decline in cortisol levels for the people who maintained a healthy relationship. Furthermore, social connections have taught people how to empathize and help each other in times of stress. If it were not for empathy, the world would be disorderly, chaotic, and in turmoil. Moreover, compassion has a direct and positive effect on the person's mental health. Novelist Mohsin Hamid had previously discussed such topics, saying that "empathy is about finding echoes of another person in yourself." Social relationships have allowed people to assist each other, and most importantly themselves.

What might often be surprising is the effect of social ties on an individual's physical health. Harvard Health's research team had observed approximately 39,000 people's relationships and health records over time. They had found a correlation between weak social relationships and risks in premature death. The risk can rise to 50%, which is more than what smoking and similar activities can cause. Conversely, maintaining strong connections allows people to live longer. An example of that is the Blue Zone Project that was started by National Geographic. The Blue Zone is a set of regions that have relatively low mortality rates. The tribes and communities they have are the main reasons for high life expectancy in those regions.

As previously stated, fruitful interactions shape people's mental and physical state. Unfortunately, with the Covid pandemic that has taken the world by storm, it is rather challenging to maintain such relationships. Psychologist Louise Hawkley points out that isolation links to depression and abnormal sleeping patterns. However, social relationships are only one dimension of a person's health. We should incite change within ourselves and our habits, as they also contribute to a well-nourished lifestyle.

Sources:

- Relationships and social connections can help you live longer. (n.d.). Retrieved March 03, 2021, from https://www.susquehannahealth.org/in-the-community/blog/relationships-and-social-connections-can-help-you-live-longer
- Publishing, H. (n.d.). The health benefits of strong relationships. Retrieved March 03, 2021, from https://www.health.harvard.edu/newsletter_article/the-health-benefits-of-social-relationships
- Mineo, L. (2018, November 26). Over nearly 80 years, Harvard study has been showing how to live a healthy and happy life. Retrieved March 03, 2021, from https://news.harvard.edu/gazette/story/2017/04/over-nearly-80-years-harvard-study-has-been-showing-how-to-live-a-healthy-and-happy-life/
- https://journals.sagepub.com/doi/pdf/10.1177/0022146510383501
- Matthews, T., Danese, A., Wertz, J., Odgers, C., Ambler, A., Moffitt, T., & Arseneault, L. (2016, March). Social isolation, loneliness and depression in young adulthood: A behavioural genetic analysis. Retrieved March 03, 2021, from https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4819590/
- Matthews, T., Danese, A., Wertz, J., Odgers, C., Ambler, A., Moffitt, T., & Arseneault, L. (2016, March). Social isolation, loneliness and depression in young adulthood: A behavioural genetic analysis. Retrieved March 03, 2021, from https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4819590/

Important Mental Health Hotlines

According to the World Health Organization, one in five adolescents develops a mental disorder, and does not always have the appropriate resources around them to properly treat it. In Lebanon, many non-governmental organizations have made it their top priority to cater the mental health services our government would not, via methods such as free sessions, consultancy, and if necessary, intervention of legal forces. Below is a short list of Lebanese, free NGOs which are fully functioning at the moment and are on the ground to protect those going through tough times.

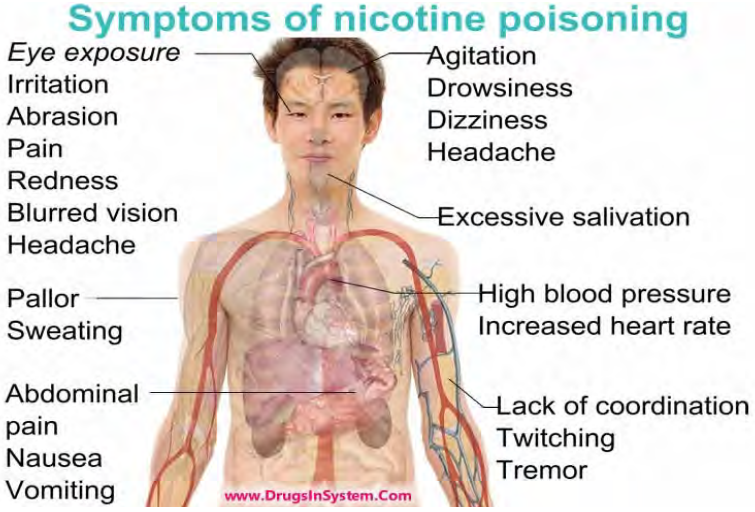
- **Embrace Lifeline:** A non-profit organization which works to raise awareness about mental health in Lebanon. It is the first national emotional support and suicide prevention hotline.
    - **Suicide Hotline:** 1564
    - **Mental Health Centre:** +961 81003870
- **Free Therapy Sessions:** Below are organizations dedicated to treating mental health, via raising awareness and free sessions.
    - **IDRAAC:** +961 03730475
    - **SIDC:** +961 76028221
- **Substance Abuse:** For those struggling with addiction
    - **Cénacle De La Lumière "Youth Cap":** +961 71446746
    - **Skoun Hotline:** +961 78824730
- **Hotlines for Victims of Abuse:** The following organizations provide relief for victims of abuse, with the intervention of legal forces for severe cases.
    - **ABAAD:** +961 81788178
    - **KAFA:** 1745

Nicotine and Drugs

LEA MARIA RIZK – SEC III LP

Nicotine has been one of the most harmful ways for individuals to release stress for decades. Nicotine poses several health hazards, addiction being the most important as it increases risk of cardiovascular, respiratory, gastrointestinal disorders on the long run. There is decreased immune response and it also poses ill impacts on the reproductive health. It interferes in cell division (tissue growth), oxidative stress, apoptosis (programmed cell death), and DNA mutation by various mechanisms which leads to tumour growth – usually malignant (cancer). It also promotes tumour proliferation to other parts of the body which causes resistance to chemo and radio therapeutic agents.

Nicotine is well known to have serious systemic side effects in addition to being highly addictive. It adversely affects the heart, reproductive system, lung, kidney, and more.



The only other known use of nicotine has been as an insecticide since the 17th century.

A drug is any substance which, when taken into the body, alters the body's normal functions physiologically and/or psychologically. Some drugs are legal such as alcohol, caffeine and tobacco, whereas others are illegal such as cannabis, ecstasy, cocaine and heroin. The addiction to illegal drugs can lead to severe side effects such as death, life-threatening conditions, hospitalization, disability, mental health issues, and much more.

Many drugs are useful for the human body and are medically administered or prescribed to certain patients. However, altering the **dosages** of these medications or taking one without a prescription for it can cause a lot of issues. Overdose is the act of taking in a higher dosage of a drug than your body requires,

and this causes many issues, including a racing heartbeat, sweating, confusion and disorientation, loss of consciousness, or even death.

Different drugs bring about different consequences – some cause a rapid increase in heartrate and psychedelic delusions, while others bring about a sense of calmness and a loss of reflex.

People hold several reasons for using drugs, and they are often encouraged to do so by friends, TV shows and media channels, stress, etc. However, one must realize that if one's friends held their best interest at heart, peer pressure would never be an issue. Distance yourself from toxic individuals, and focus on engaging in activities you enjoy, be it exercise, art, music, meditation or yoga, watching television, surfing the web, or reading a book...

Sometimes seeking help from a therapist or a trusted adult would also be the right way to deal with your issues. Do not jeopardize your health just to fit in or because you are going through difficulties. Drugs will make your life worse. Instead, deal with your struggles by other means, give yourself time, and show your body and mind gratitude for the life they give you.

First Aid Basics

ADRIANA GORAIEB – IB2

Note: In 2019, I took a 2-day intensive course hosted at school on first aid – in this guide, I will be writing down everything I recorded from that course.

Preliminary Preparation

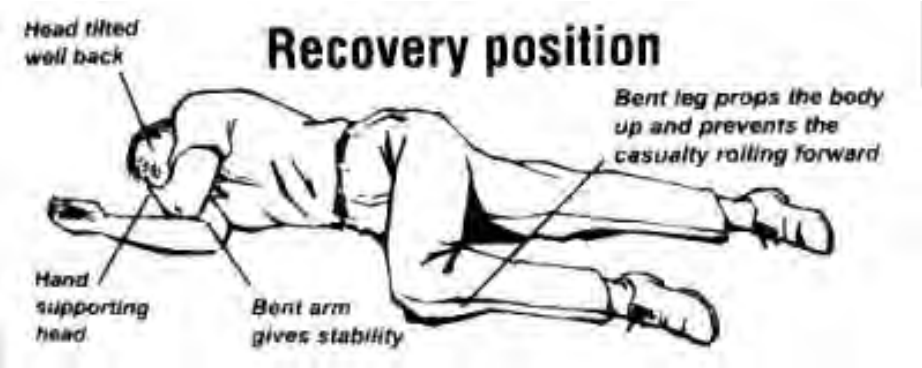
1. Qualifications to perform first aid = first aid training & communication skills
2. First Aid kit available = contents should be regularly checked for a full stock
3. Emergency numbers memorized:
    a. Fire brigade = 120
    b. Civil Defence = 125
    c. Red Cross = 140

A. Site and Casualty Assessment

1. **Self-control = never panic**
2. **Safety**
    a. Isolate the victim (e.g. on road, surround the site with cones to protect yourself and prevent a casualty)
3. **Situation assessment/ priorities**
    a. Prioritize the **victim in a more severe health state**
    b. Prioritize the **more threatening injury** in one victim
4. **Call for help (140 – Red Cross)**
    a. Describe a specific location, the situation, the # of casualties, and the type of injuries
5. **Check vital signs**
    a. Are they **conscious or no**?
        i. Test this by talking to the casualty OR
        ii. Stimulating conscious – Ask them to squeeze your hand// trigger harmless pain to test for a reaction (press the shoulder muscles while using verbal stimulation) // waft a strong smell their way (olfactory stimulation)
    b. Are they **breathing?**
        i. To open airway:
            1. Hand on forehead; push downwards to lift chin
            2. Place 2 fingers (index & middle) from the other hand under the chin and push upwards → this raises the tongue & liberates the airway
        ii. (Check, listen, feel) Check for chest movement, listen for breathing sounds, feel breathing on your cheek (3 breaths in 10 s = good)
    c. Do they have a **pulse?**
        i. Place 2 fingers at either carotid artery in the neck, or at wrist
6. **Conduct a general check-up of injuries before placing the casualty in the side recovery position:**
    a. Survey behind the head
    b. Survey behind the neck
    c. Check the upper limbs without moving them (handle them at the joints)
    d. Check the chest → any pain would stimulate a reaction from the victim

e. Check the abdomen (apply slight pressure)
f. Check the back (apply slight pressure on the sides)
g. Check the hips (apply pressure once)
h. Check the lower limbs

7. **Place them in the side recovery position**
   a. Left arm extended out
   b. Right hand on left shoulder, right arm close to chest
   c. Bend the right leg
   d. Roll casualty over their left side (Place one of your hands on their head, one on their leg to do so)
   e. Place their right hand under their head
   f. Bend the left arm



8. **If the patient does not wake up after the 4th pain stimulation you give, call an ambulance, keep them in recovery position, and wait**
   a. **Never:** leave patient unattended, give them medication, or slap them
   b. **Do:** regularly check their airway, respiration, and pulse, and keep trying to wake them up

B. Shock

Causes	Symptoms
Severe bleeding	Thirst
Heart problems	Weakness/ dizziness/ fainting
Spinal injury	Pale skin (blood pressure drops
Allergic reaction	Nausea
Poisoning	Cold limbs → shivering
Fractures	Rapid breathing/ pulse
Anxiety/ Stress	Blue lips
Nearly drowning	Cold/ moist skin

Note that shock can come with any kind of injury – bleeding, fracture, headache

What happens during shock?

- The heart/ lungs/ nervous system don't work properly
- This affects all body functions
- Blood doesn't reach the brain properly, and it will lack O_2, causing shock
  - At 4-6 minutes, symptoms start to show – partial brain damage may occur
  - At 20 minutes, complete brain damage occurs

What to do:

1. Patient must lie down
2. Raise the legs (unless there is a spinal/ leg injury)
3. Loosen tight clothing
4. Keep them warm and calm – give nothing by mouth
5. Monitor level of response & check airway

C. Vital Signs Levels summary (for adults)

Vital sign	Critical Upper Limit	Medical Term	Critical Lower Limit	Medical Term
Pulse (bpm)	120	Tachycardia	50	Bradycardia
Respiration (breaths/ min)	30	Tachypnoea	8	Bradypnea
Blood pressure (mmHg)	130	Hypertension	80	Hypotension
Temperature (°C)	39	Fever	35	Hypothermia

D. Seizures

- Can be caused by epilepsy → treated with medication
- Some seizures can last 5s – 30s. An individual usually has no recollection of this time (they go blank)

Signals:

1. Lip smacking (dry mouth)
2. Handwringing (joint pain)
3. Disorientation

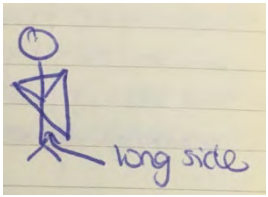
What to do:

1. Turn on side
2. Place something soft under head
3. **Don't try to stop it**
4. Time the seizure – if it lasts for 5 minutes, or if 2 in a row occur, call 140
5. Do not give them anything by mouth

E. Bone fractures

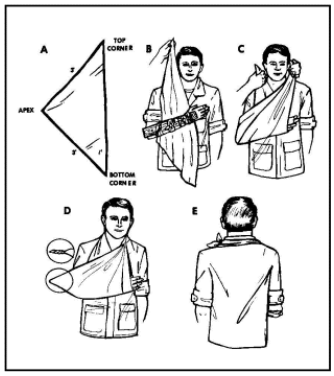
1. **Signs/ symptoms**
    1. Localized pain
    2. Deforming in shape/ size/ colour
    3. Inability to move or squeeze fractured area
2. **Basic rule for immobilization**
    1. Immobilize the joints surrounding the fracture
    2. Use a jacket/ triangular scarf/ improvised material
    3. Immobilize the joints **before moving the patient**
        i. If the fracture moves, it can cut nerve (paralysis), veins/ arteries (bleeding), or muscle

3. **Types of bone fractures**
    1. Compression (2+ bones forced against each other)
    2. Impacted (like compression, but within 1 bone)
    3. Open (piece of broken bone pierces through skin – bone is exposed, there is a risk of infection)
    4. Closed (bone fractured but doesn't pierce through the skin)
    5. Fixed (doesn't move out, broken in place)
4. **Protocol to Immobilize the Wrist**
    1. Have the patient sit
    2. Place the broken arm on a table to immobilize it
    3. Insert a hard-sheet material under the hand & slide it under the whole arm (stop movement)
    4. Have the patient fold the hard sheet material around arm using the other hand, making sure it doesn't go behind the elbow
    5. Follow the following steps to wrap it – ensure you have 3 scarfs/ long pieces of cloth with you
        i. Slide 3 scarfs under the sheet materials
        ii. Fold the sheet material and tie the middle scarf around the middle to secure the fold
        iii. Fill the empty space with cloth to limit the space in which the arm can move
        iv. Tie up the remaining scarfs on either side



How to hold scarf for step (a)

5. **Protocol to Immobilize the Elbow (bend arm)**
    1. Handle a triangular scarf as such:
    2. Place the scarf on the chest, with the flat side away from the injury
        i. The top end is on the opposite shoulder; fold the bottom end under & over the broken arm
        ii. Take the bottom end of the scarf (should be on injured arm's side) and take it over the shoulder on the injury's side
        iii. Tie with the other end from behind the neck
        iv. Secure the apex at the elbow with a knot on itself.



6. **Protocol to Immobilize the Shoulder**
    1. Place the middle of the scarf at the arm of the broken shoulder, flat side at shoulder
    2. Bring one end behind the back to the opposite side
    3. Bring the other end over the broken-shoulder arm, under the opposite arm
    4. Tie ends firmly together
    5. Tie a knot at the elbow
7. **Protocol when the Clavicle is Broken**
    1. Bend both arms at the chest, the arm of the non-broken clavicle under the arm of the broken clavicle
    2. The apex of the scarf should be slightly above the elbow of the broken-clavicle arm
    3. Place the top end of the scarf at the shoulder, bottom end folded under the arm
    4. Take the bottom end to the back from the side of the broken clavicle
    5. Tie the end together from the upper back.
8. **Protocol for lower limb fractures**
    1. Immobilize using 5 large ties & two splints on either side of the leg

2. Pass them from underneath the knee & spread them (2 should be higher than the knee, 2 under, and one at the knee)
3. Place a blank/ cloth to fill the empty space between the splints
4. Place two splints on either side of **both legs**
5. Place a cloth to fill the empty space between both legs
    i. If you can't do this, use the cloth to tie the legs together

9. Protocol for Joint Injuries

1. **I.C.E.S.**
    i. I = ice pack/ cold wet cloth for 20 minutes. Take a rest, then apply again
        1. Ice reduces pain (cold effect), swelling, and discoloration
    ii. C = Compression with a wrap
    iii. E = Elevation
    iv. S = Splinting (immobilization)
2. **Splinting for wrist injuries**
    i. Wrap x2 around wrist, go over hand (not palm), go under 4 fingers, back over hand, under wrist (goal = X-shape)
    ii. Go back under fingers & over, with a 1 cm distance between each wrap, and keep doing that for around 4-5 wraps

10. Protocol for Head Injuries

1. Quickly & carefully examine the scalp for injuries (lacerations or depressed/ open skull fractures)
2. If bleeding from the scalp is found, and no obvious fractures found, wait for the ambulance

11. Breathing problems

1. Place patient in a 45°C position = optimal position for breathing

12. Spinal Injury

1. Do not touch the casualty; wait for professional assistance

F. Closed Wounds – damage to tissues beneath skin

Types:

1. Swelling
2. Hematoma (blood coming out of vessels and accumulating under the skin)
3. Contusion (skin discoloration due to blood leaving)

Protocol: I.C.E.S. technique

G. Open wounds

1. Apply direct pressure (use isolated cloth/ plastic bag/ gloved hand)
2. Apply compressive bandage (NEVER REMOVE THIS → excess blood loss might lead to hypovolemic shock, which leads to cardiac arrest)
3. If bleeding continues, apply a second bandage
    a. Place one hand on the first one, and then use the other hand to wrap the second bandage around once – once secured, use both hands to wrap it around the compression bandage 4-5 times
    b. The injured body part should be raised to minimize blood pressure there
    c. Cover the victim with a blanket/ jacket to maintain body temperature

H. Nosebleeds (may be caused by heat from the sun – extends capillaries under skin)

1. Firmly pinch the side of the nose that is bleeding, using the thumb
2. Sit and lean forward
3. Hold position for 15 minutes
4. If bleeding doesn't stop, go to nearest hospital emergency department
5. **Notes:**
   a. **Never** insert a Kleenex in the nose
   b. **Never** lean back → blood rushes down internal cavities; causes vomiting
   c. **Don't try to stop bleeding if person is known to have hypertension**

I. Skin Injuries – result: bacterial invasion, temperature instability, fluid disturbance

1. **Internal bleeding**
   a. Can't do anything; take to hospital
   b. Signs include: Pale face, rapid pulse/ breathing, cold sweat, cold limbs, extreme thirst (BUT DON'T GIVE FLUIDS → accelerates circulatory system)
2. **Burns:**
   a. **1st degree** = epidermis; leads to pain, redness, swelling
      i. No permanent scarring, very painful.
      ii. Heals in 3-7 days
   b. **2nd degree** = dermis; leads to pain, redness, blistering (don't rupture!), white patches
      i. Skin doesn't blanch upon pressure
      ii. Healing takes weeks
      iii. Bad scars
      iv. Easily infected
   c. **3rd degree** = subcutaneous; nerves, vessels and subcutaneous tissue is damaged; leads to bacterial infection → leading cause of death in victims
      i. Skin is charred leathery or pale/ dry
      ii. Thrombosed veins are visible through translucent/ pearly surface
      iii. No pain – nerves are damaged
      iv. Healing only occurs by skin grafting or scarring

Dealing with fires/ burn victims:

- Move victim to safe environment
- Put out fire
- Cut out smouldering clothes that are **not** stuck to skin
- Immediately run cool water over burn area for 10 minutes
- While cooling the burns, watch for signs of breathing difficulties

J. Poisoning

1. Monitor airway, breathing, and circulation
2. Prevent further injuries (vomiting, inhaling further poisons…)
3. **Note on types of poisons**
   a. Household detergents, paints, insecticides

b. Drugs & alcohol
c. Poisonous plants
d. Food poisoning
e. Industrial poisons

K. Electrical Injuries

1. Don't touch casualty when in contact with electrical source
2. Don't use anything metallic to push away electrical source
3. Cut off all power switches
4. Stand on insulated space, **not** on floor (especially when floor/ hands/ body is wet)
5. Check vital signs and put casualty in recovery position

L. Contents of a First Aid Kit

1. Cold pack
2. Disposable gloves
3. Thermometer
4. Gauze
5. Tweezers
6. Band-aids
7. Mebo (burn ointment)
8. Antiseptic ointment
9. Medical tape

M. Frostbite

1. Warm the frostbitten area by soaking area in water (38°C), but don't allow it touch the container of water
2. Dry the area with sterile gauze
3. Wrap loosely

N. Choking accidents

1. Encourage choking individual to continue coughing
2. **If someone is choking on food:**
    a. Bend victim downwards slightly
    b. Stand behind them, dominant hand on back, other hand supporting chest from behind
    c. Push upwards using the heel of your hand between the shoulder bones **OR**
    d. From behind, place your dominant hand (in a fist) with your other hand cupped over it at a position 2 fingers above belly button, and push upwards in a semi-circular motion
    e. Do this until food is released

O. Heart Attacks

1. Signs include:
    a. Difficulty breathing
    b. Shock
    c. Sweat
    d. Pale
    e. Pain in left arm
2. **Immediately call 140**

a. If the victim is conscious, calm them down and prevent movement
b. Carry victim only to take them to an ambulance/ hospital
c. Don't give them anything to drink

P. Airway/ breathing

1. If there's good breathing, put them in the safety position
    a. If there **isn't** good breathing, give 2 rescue breaths
        i. 1 breath per 5 secs for adults & children
        ii. 1 breath every 3 secs for infants
2. If there is circulation, only give rescue breaths
    a. If there is **no** circulation, give CPR
    b. Monitor the circulation every 30-60 seconds

If there is no circulation:

1. Check responsiveness (shake and shout)
2. Open the airway (head tilt, chin lift)
3. Check breathing (look, listen & feel for 3 breaths per 10 s)
4. Give 2 effective breaths (each breath is for 2 seconds)
    a. Tilt head with one hand
    b. Use 2 fingers from same hand to block the nose
    c. Use the other hand → 2 fingers under chin to lift it
    d. Full lip lock, give out a full breath
5. Assess for 10 s
    a. If circulation is present, continue rescue breaths
        i. Check circulations every minute
        ii. If breathing, put in recovery position
    b. If there is no circulation, compress chest 100x in one minute, at a depth of 3-5 cm (use the weight of your shoulders)
        i. Get on your knees
        ii. Arms 90°C over victim's chest
            1. **Note**: for a child, use 1 hand
            2. For a baby, use 3 fingers → 1 finger is used to identify the bottom of the sternum; release this finger, and start compressions with the other 2 fingers
        iii. Be close to victim
        iv. Chest compression occurs in the middle of the chest
6. Stop CPR when you accomplish 30:2 5 times
7. Start again if circulation stops
8. Stop completely if victim shows any sign of response

Make sure to revisit this guide often, in order to preserve your knowledge of first aid. You could save a life someday :)