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OACCUs manual

Pillar 1

Physical Activity & Outdoor Sports

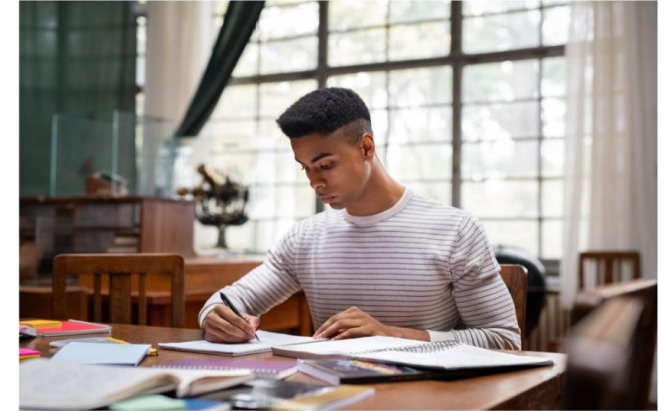


We don't move our bodies enough

Many of us lead lives without enough physical activity. This may be because we **don't participate in enough physical activity** during time off work and/or school, and also because **we don't move enough when we are at work, school, or home.**

Additionally, while **passive modes of transportation**, such as busses, scooters, and subways, become more popular, our levels of **physical activity decline** even more. All this promotes a **sedentary lifestyle.**

Generally speaking, an increase in excessive **sedentary behaviour** (activities other than sleeping which are done seated, reclined, or lying down) is linked to an **increase in negative health effects** such as overweight, obesity, cardiovascular disease and **cancer.**



Exercise- how and how much?

General recommendations



Aerobic

Aerobic exercise:
30-60 min
moderate-high intensity
2-3 times per week

Example: cycling, jogging, rowing, walking, elliptical exercising, hiking, nordic walking, dancing.



Mobility/stretch

Mobility and stretch training: daily
Example: yoga, and stretching exercises



Strength

Strength/resistance training:
8-15 reps per exercise
moderate/high intensity
2 -3 times per week

Example: resistance bands, dumbbells, kettlebells or other weights. Self-loading or suspension training.
Can be done outdoors (in a park, on the beach or climbing) or indoors (at home, gym).



Agility- Coordination- Balance

Balance and agility training: 2 -3 times per week

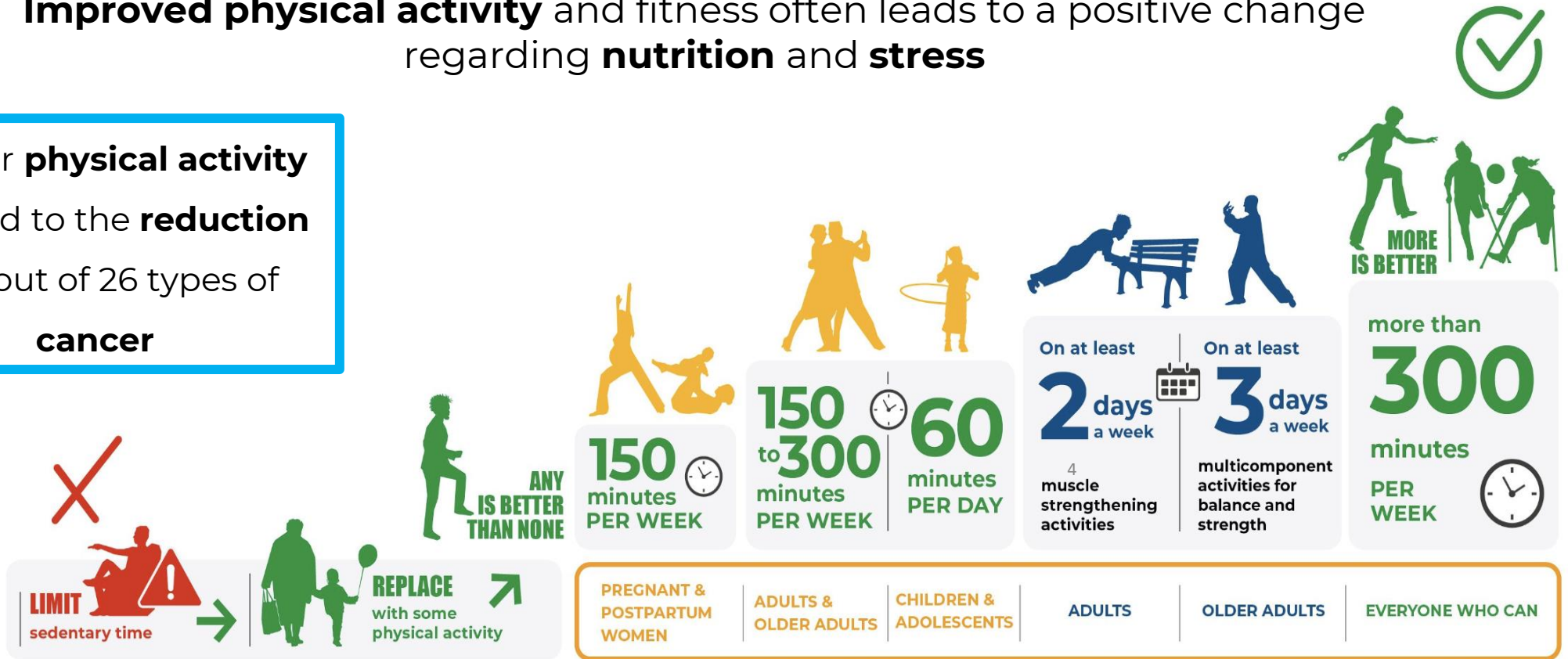
Example: Taichi, yoga, balance exercises and dancing.

But remember – every move counts!

Being active has significant health benefits for the **heart, body, and mind**.
Walking, cycling, dancing, hiking, playing sports, it all counts.

Improved physical activity and fitness often leads to a positive change regarding **nutrition** and **stress**

Regular **physical activity**
can lead to the **reduction**
of 13 out of 26 types of
cancer



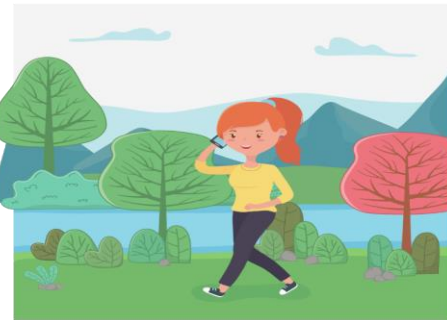
Strategies to increase movement and integrate physical activity with a busy schedule



Start your day with a stretching routine



Choose the longer and more active route



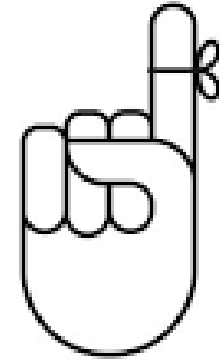
Incorporate movement in everyday activities



Take active breaks

Key takeaways

- Sedentary behaviours have negative effects on your health.
- Physical activity is an important part of a healthy lifestyle.
- Physical activity is beneficial to your health.
- Be as active as possible in your daily routine.
- Perform multicomponent exercise integrating aerobic, strength, mobility and balance exercises at least 3 days per week.



References

- Campbell, Kristin L.; Winters-stone, Kerri M.; Wiskemann, Joachim; May, Anne M.; Schwartz, Anna L.; Courneya, Kerry S.; Zucker, David S.; Matthews, Charles E.; Ligibel, Jennifer A.; Gerber, Lynn H.; Morris, G. Stephen; Patel, Alpa V.; Hue, Trisha F.; Perna, Frank M.; Schmitz, Kathryn H.. Exercise Guidelines for Cancer Survivors: Consensus Statement from International Multidisciplinary Roundtable. *Medicine & Science in Sports & Exercise* 51(11):p 2375-2390, November 2019. | DOI: 10.1249/MSS.0000000000002116
- Moore SC, Lee IM, Weiderpass E, Campbell PT, Sampson JN, Kitahara CM, Keadle SK, Arem H, Berrington de Gonzalez A, Hartge P, Adami HO, Blair CK, Borch KB, Boyd E, Check DP, Fournier A, Freedman ND, Gunter M, Johansson M, Khaw KT, Linet MS, Orsini N, Park Y, Riboli E, Robien K, Schairer C, Sesso H, Spriggs M, Van Dusen R, Wolk A, Matthews CE, Patel AV. Association of Leisure-Time Physical Activity With Risk of 26 Types of Cancer in 1.44 Million Adults. *JAMA Intern Med.* 2016 Jun 1;176(6):816-25. doi: 10.1001/jamainternmed.2016.1548. PMID: 27183032; PMCID: PMC5812009.
- WHO guidelines on physical activity and sedentary behaviour. Geneva: World Health Organization; 2020. Licence: CC BY-NC-SA 3.0 IGO.



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Pillar 2

Balanced nutrition



What do we mean by balanced nutrition?

A healthy, or balanced, diet means you are getting **the right amount of energy** (calories) to support your body's energetic and physiologic needs, while also **getting enough water, vitamins and minerals**.

Carbohydrates, proteins, and fats (also known as macronutrients) provide the energy **necessary for the cellular processes** required for daily functioning.

Vitamins and minerals (known as micronutrients) are required in comparatively small amounts for normal **growth, development, metabolism, and physiologic functioning**.

Balanced nutrition means supplying your body with the **right amount of the right kind of fuel**.



Nutrition as cancer prevention

Nutrition, or what we eat, is something we can modify and adapt depending on different circumstances. What we eat can have great influence on our health.

Nutrition is an important factor in the prevention and treatment of cancer. The following are recommendations to be considered for cancer prevention:

The World Cancer Research Fund/American Institute for Cancer Research (WCRF/AICR) diet and lifestyle guidelines recommend a diet rich in **wholegrains, vegetables, fruits, and beans**, with **limited consumption of processed foods, red meat, sugar-sweetened drinks, and alcohol**.





FOOD



NUTRIENTS



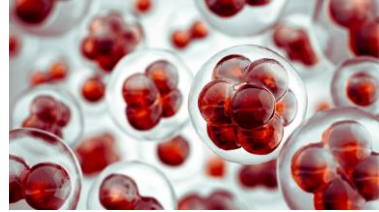
METABOLISM



ENERGY
MOVEMENT



CELL FUNCTIONS
(HOMEOSTASIS)



CONTROL MOOD
PSYCHOLOGICAL
STATE



BETTER SLEEP



Mediterranean Diet

The Mediterranean diet is based on components of traditional dietary patterns of Euro-Mediterranean countries and includes not only **food** but also **way of life, growing, preparing, and consuming food**.

Eating together is the foundation of the cultural identity and continuity of communities throughout the Mediterranean basin. It is a moment of **social exchange** and **communication**, an **affirmation** and **renewal of family, group or community identity**.

The Mediterranean diet **promotes** foods such as **vegetables, whole grain**, and extra virgin **olive oil**, and recommends **limiting** the intake of **red meat, sugar** and **procossed foods**.





Mediterranean Diet

Daily

- fruits
- **vegetables**
- **whole grains**
- **nuts**
- **extra virgin olive oil**

Water is the preferred **beverage**,
it is important to stay **hydrated**

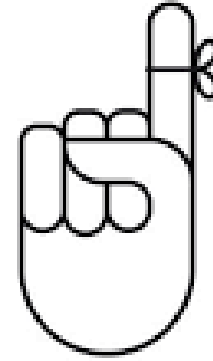
Weekly

- **fish/seafood**
- **poultry**
- eggs
- dairy foods such as
cheese and yogurt

Occasionally

- sweets containing
added sugars **or honey**
- red meat

Key takeaways



- A balanced diet is essential for maintaining physical and mental health
- A diet rich in wholegrains, vegetables, fruits, and beans is recommended by the World Cancer Research Fund
- The Mediterranean diet promotes a healthy and sustainable way of growing, preparing and enjoying healthy foods such as vegetables, extra virgin olive oil, and wholegrains, while limiting the intake of foods such as red meat and sugar

References

- Cena; Calder. (2020). Defining a Healthy Diet: Evidence for the Role of Contemporary Dietary Patterns in Health and Disease. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7071223/>
- World Cancer Research Fund International. (2020) CO-CREATE. <https://www.wcrf.org/policy/co-create/>
- McManus; Katherine D. (2023) A practical guide to the Mediterranean diet.
<https://www.health.harvard.edu/blog/a-practical-guide-to-the-mediterranean-diet-2019032116194>



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Pillar 3

Sustainability & Nature



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degli Studi
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Núcleo Regional do Centro





Benefits to outdoor physical activity for young cancer survivors:


- Individuals living in a **greener environment** are three times **more likely to be physically active** with a 40% lower chance of being overweight or obese according to a study conducted in eight European countries
- Research supports a **connection between improved health** and surrounding **green space**
- Time spent **outdoors promotes** exposure to sunlight which supports **vitamin D** production and **circadian rhythm** regulation, **fresh air**, and is a natural **mood boost**.
- Studies have found that when **exercising outdoors**, the same amount of exertion is **perceived as less demanding** than when performed inside. Typically resulting in a higher output of physical activity when exercising outdoors.



Common barriers to physical activity in young cancer survivors

- Treatment-related side effects
- Lack of time
- Lack of support
- Lack of inspiration
- Fatigue
- Not knowing about the great advantages of physical exercise, performed suitably and safely, during and after treatment



- 
- To provide safe and effective exercise recommendations for young cancer survivors, it is essential to:
 - Identify and understand the barriers preventing them from exercising
 - Identify the healthcare professionals who can facilitate the education and support needed

Tips to train and live sustainably

- Active instead of passive means of commuting (walking, cycling, jogging)
- Stairs instead of elevator or escalator
- Clothing made from recycled materials
- Equipment made from recycled materials
- Packed lunch instead of take-out
- Shorter showers



Key takeaways



If you want to exercise outdoors, avoid the urban environment. Instead, find a green area like a park. Remember that air pollution is associated with different types of cancer.

Green environments have positive effects on our mental health. During summer, walks in mountain areas can offer a cooler, natural environment. Green areas in cities are also good alternatives.

Remember to use sunscreen to prevent skin cancer. You can also wear a hat (both for beach areas like the seaside and higher mountains).

Healthcare professionals play a crucial role in supporting you during your outdoor physical activity sessions.

References

- Zare Sakhvidi MJ, Lequy E, Goldberg M, Jacquemin B. Air pollution exposure and bladder, kidney and urinary tract cancer risk: A systematic review. *Environ Pollut*. 2020 Dec;267:115328. doi: 10.1016/j.envpol.2020.115328. Epub 2020 Aug 20. PMID: 32871482.
- Huang Y, Zhu M, Ji M, Fan J, Xie J, Wei X, Jiang X, Xu J, Chen L, Yin R, Wang Y, Dai J, Jin G, Xu L, Hu Z, Ma H, Shen H. Air Pollution, Genetic Factors, and the Risk of Lung Cancer: A Prospective Study in the UK Biobank. *Am J Respir Crit Care Med*. 2021 Oct 1;204(7):817-825. doi: 10.1164/rccm.202011-4063OC. Erratum in: *Am J Respir Crit Care Med*. 2022 May 15;205(10):1254. PMID: 34252012.
- Siah CR, Kua EH, Goh YS. The impact of restorative green environment on mental health of big cities and the role of mental health professionals. *Curr Opin Psychiatry*. 2022 May 1;35(3):186-191. doi: 10.1097/YCO.0000000000000778. PMID: 35579872.
- Fernandez-Ruiz J, Montero-Vilchez T, Buendia-Eisman A, Arias-Santiago S. Knowledge, Behaviour and Attitudes Related to Sun Exposure in Sportspeople: A Systematic Review. *Int J Environ Res Public Health*. 2022 Aug 17;19(16):10175. doi: 10.3390/ijerph191610175. PMID: 36011808; PMCID: PMC9407896.



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Pillar 4

Physical & Mental wellbeing



CEIPES



Reacting to a diagnosis

A cancer diagnosis can be an overwhelming and life changing experience.

Cancer affects the body on a physical level and the individual's overall health is suddenly at serious risk.

The diagnosis itself as well as the treatment for cancer can result in psychological distress.

Depression

Anxiety

Worry

Panic

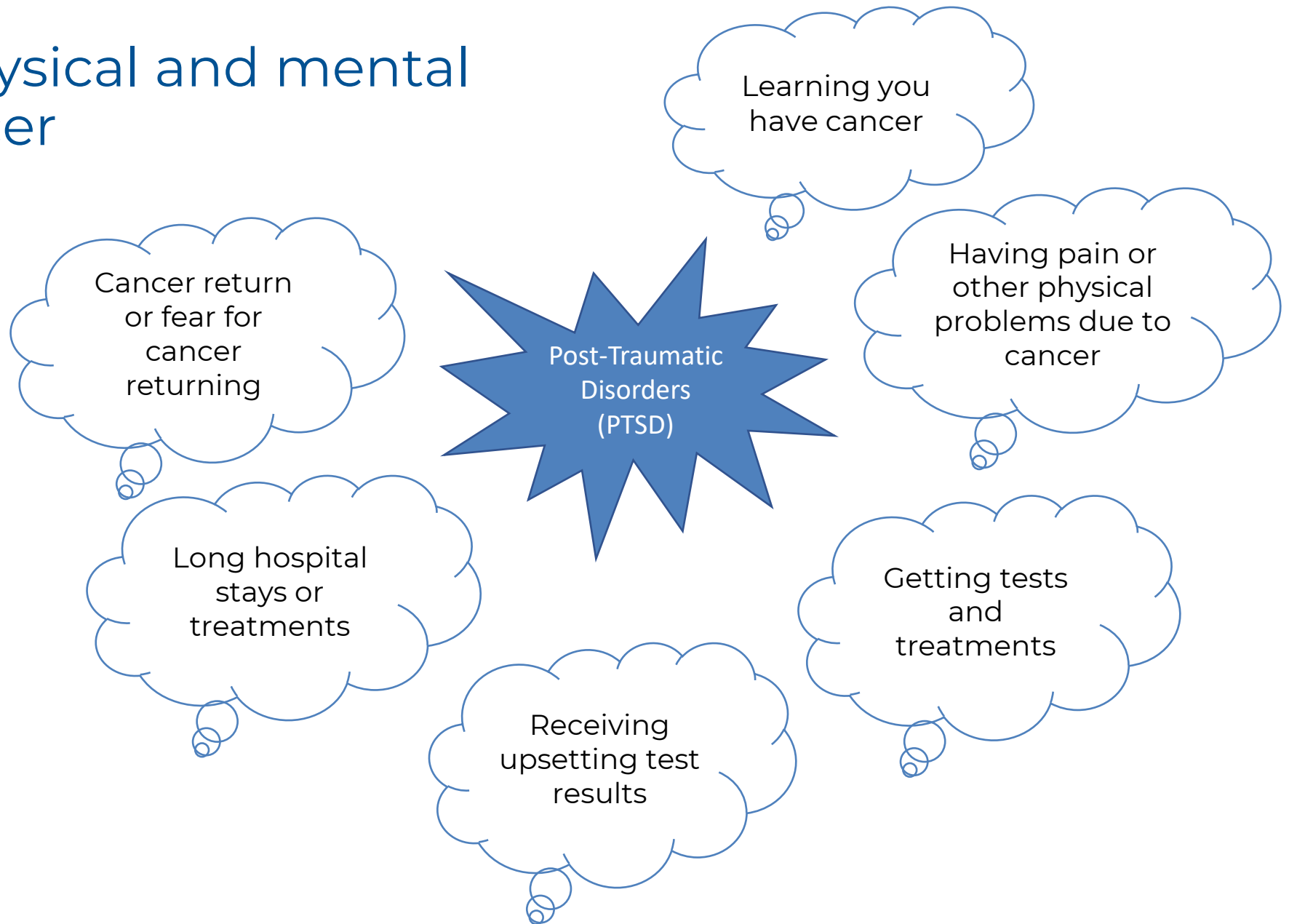
Sadness

Fear

Anger

Coping with physical and mental aspects of cancer

All factors being constant, the **higher the stress** and burden associated with the cancer journey, the **greater** the likelihood of **experiencing adverse psychological effects**.



What can be done

REGAIN A SENSE OF “NORMALCY”

- A sense of "normal" is not necessarily identical to a pre-diagnosis state.
- The feelings of invulnerability and innocence may have disappeared, cancer experience often leads to **maturity** and **transformation**, altering **self-perception** compared to peers and previous **self-image**.
- Maintaining a “normal” routine offers a comforting feeling of security.
- **Physical activity** and sports can have a **positive effect** on **cop**ing strategies.



MANAGING YOUR EMOTIONS: TIPS FOR COPING WITH BODY IMAGE

PREPARE FOR POTENTIAL CHANGES

Take the time to understand the physical impacts that cancer treatments may have on your body. Consider ways to prepare and cope with these changes.



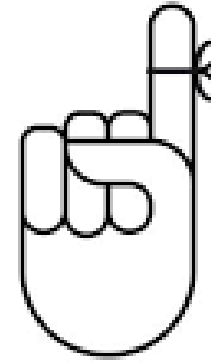
PLAN SOME CONVERSATIONS

"I've been undergoing cancer treatment, so I might look a bit different right now, but I'm okay." This allows acknowledgment of the changes so you can move on to the next topic or deepen the conversation. Whatever you choose, it's okay!

VALIDATE YOUR FEELINGS:

If you feel anxious or upset about the changes in your body due to cancer and its treatments, discuss your concerns with your healthcare team.

Key messages



- Physical conditions can affect the mental well-being
- Finding normality after cancer can constitute the beginning of a new self-exploration
- Acknowledging the potential physical changes and the accompanying emotions that come with them is an important first step in the cancer journey

References

Cancer Net. (2022, July). Post-Traumatic Stress Disorder and Cancer. Retrieved from: <https://www.cancer.net/coping-with-cancer/managing-emotions/post-traumatic-stress-disorder-and-cancer>

D'Agostino, N. M., & Edelstein, K. (2013). Psychosocial challenges and resource needs of young adult cancer survivors: implications for program development. *Journal of psychosocial oncology*, 31(6), 585–600. <https://doi.org/10.1080/07347332.2013.835018>

Janssen, S. H. M., van der Graaf, W. T. A., van der Meer, D. J., Manten-Horst, E., & Husson, O. (2021). Adolescent and Young Adult (AYA) Cancer Survivorship Practices: An Overview. *Cancers*, 13(19), 4847. <https://doi.org/10.3390/cancers13194847>

Maggie's Dundee. (2022, November). Self-Image and Cancer. Retrieved from: <https://www.maggies.org/cancer-support/managing-emotions/self-image-and-cancer/>

Miedema, B., Hamilton, R., & Easley, J. (2007). From "invincibility" to "normalcy": coping strategies of young adults during the cancer journey. *Palliative & supportive care*, 5(1), 41–49. <https://doi.org/10.1017/s147895150707006x>

Stein, K. D., Syrjala, K. L., & Andrykowski, M. A. (2008). Physical and psychological long-term and late effects of cancer. *Cancer*, 112(11 Suppl), 2577–2592. <https://doi.org/10.1002/cncr.23448>.

Sebri, V., Durosini, I., & Pravettoni, G. (2023). How to address the body after breast cancer? A proposal for a psychological intervention focused on body compassion. *Frontiers in psychology*, 13, 1085837. <https://doi.org/10.3389/fpsyg.2022.1085837>