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# Vitamin B3 Supplements May Aid Cancer Cell Survival

## Description

A new study from Case Western Reserve University in the US has raised concerns about NAD+ supplements, popular for boosting energy and promoting healthy ageing. The research suggests these supplements might negatively impact cancer treatments.

NAD+ supplements, including nicotinamide mononucleotide (NMN) and nicotinamide riboside (NR), are marketed to improve metabolism and cellular repair. While some cancer patients believe these could ease chemotherapy side effects, the study indicates they might inadvertently aid cancer cells.

Published in *Cancer Letters*, the study found that these supplements might help pancreatic cancer cells survive chemotherapy. Pancreatic cancer is one of the deadliest forms, with a low five-year survival rate, so treatment effectiveness is crucial.

NAD+ is essential for cell survival and function in both healthy and cancerous cells. The research showed that boosting NAD+ levels might strengthen cancer cells, enabling them to resist treatments like chemotherapy. This happens because the supplements increase energy production, lower oxidative stress, and limit DNA damage, making it harder for chemotherapy to work effectively.

Lead researcher Jordan Winter has urged caution in using NAD+ supplements alongside cancer treatments. While these might not harm healthy people, they could pose risks for cancer patients.

The study suggests routine screening for supplement use in cancer patients and calls for further research. Patients are advised to discuss any supplements with their oncologists.

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## Vocabulary List:

1. **supplements** //ˈsʌpləmənts// (noun): extra pills or substances people take for health
2. **chemotherapy** //ˌkɛməθəˈθerəpi// (noun): treatment using strong drugs to kill cancer
3. **metabolism** //məˈtæbəlɪzəm// (noun): how the body changes food into energy
4. **inadvertently** //ˌɪnədˈvɜːtəntli// (adverb): without meaning to; not on purpose
5. **oxidative** //ˈɒksɪdeɪtɪv// (adjective): relating to cell damage caused by oxygen
6. **screening** //ˈskriːnɪŋ// (noun): testing to find health problems early

## Comprehension Questions



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## Multiple Choice

1. What did the study from Case Western Reserve University raise concerns about?
  - Option: NAD+ supplements
  - Option: Chemotherapy drugs
  - Option: Vitamins and minerals
  - Option: Exercise programs
2. Which of the following is a type of NAD+ supplement mentioned in the text?
  - Option: Amino acids
  - Option: Nicotine
  - Option: Nicotinamide mononucleotide (NMN)
  - Option: Vitamin C
3. In which journal was the study published?
  - Option: Nature
  - Option: Cancer Research
  - Option: Cancer Letters
  - Option: The Lancet
4. What effect do NAD+ supplements have on pancreatic cancer cells according to the study?
  - Option: They improve survival rates
  - Option: They make cells more sensitive to chemotherapy
  - Option: They help survive chemotherapy
  - Option: They destroy cancer cells
5. Who is the lead researcher mentioned in the study?
  - Option: Jordan Winter
  - Option: John Doe
  - Option: Sarah Connor
  - Option: Julia Roberts
6. What is a main concern regarding NAD+ supplements for cancer patients?
  - Option: They are too expensive
  - Option: They might aid cancer cells
  - Option: They have no side effects
  - Option: They are universally beneficial



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### True-False

7. The study suggests that NAD+ supplements might negatively impact energy production in cancer patients.
8. The research found that NAD+ supplements could help cancer cells resist chemotherapy treatments.
9. NAD+ is only important for healthy cells and has no role in cancerous cells.
10. Patients are advised to avoid discussing supplements with their oncologists.
11. The study calls for more research on the effects of NAD+ supplements in cancer patients.
12. The study was conducted at a university in Canada.

### Gap-Fill

13. NAD+ supplements are popular for boosting energy and promoting healthy ageing, but they might negatively impact cancer treatments, according to a study from Case Western Reserve University in the \_\_\_\_\_.
14. NAD+ supplements, including nicotinamide mononucleotide (NMN) and nicotinamide riboside (NR), are marketed to improve \_\_\_\_\_ and cellular repair.
15. Pancreatic cancer is known for having a low five-year survival \_\_\_\_\_.
16. Boosting NAD+ levels might strengthen cancer cells, enabling them to resist \_\_\_\_\_ like chemotherapy.
17. Lead researcher Jordan Winter has urged \_\_\_\_\_ in using NAD+ supplements alongside cancer treatments.
18. The study suggests routine \_\_\_\_\_ for supplement use in cancer patients.



## Answer

**Multiple Choice:** 1. NAD+ supplements 2. Nicotinamide mononucleotide (NMN) 3. Cancer Letters  
4. They help survive chemotherapy 5. Jordan Winter 6. They might aid cancer cells

**True-False:** 7. False 8. True 9. False 10. False 11. True 12. False

**Gap-Fill:** 13. US 14. metabolism 15. rate 16. treatments 17. caution 18. screening

## Vocabulary quizzes

### Multiple Choice ( Select the Correct answer for each question. )

1. What is Brucellosis?

Option: A type of cancer

Option: A bacterial infection

Option: A viral infection

Option: A genetic disorder

2. What type of skin cancer is melanoma?

Option: Non-invasive

Option: Invasive

Option: Benign

Option: Pre-cancerous

3. What is the process of identifying a disease called?

Option: Prognosis

Option: Screening

Option: Diagnosis

Option: Detection

4. What treatment often involves the use of drugs to kill cancer cells?

Option: Radiation therapy

Option: Chemotherapy

Option: Surgery

Option: Immunotherapy

5. What type of stress is related to free radicals in the body?



- Option: Cellular
- Option: Oxidative
- Option: Metabolic
- Option: Neural

6. What term describes the likely outcome of a disease?

- Option: Diagnosis
- Option: Prognosis
- Option: Symptom
- Option: Infection

7. What is the term for testing for a disease before symptoms appear?

- Option: Screening
- Option: Diagnosis
- Option: Eradication
- Option: Transmission

8. What term describes the chemical processes that occur within a living organism?

- Option: Metabolism
- Option: Digestion
- Option: Excretion
- Option: Respiration

9. What do you call an individual who carries a disease without showing symptoms?

- Option: Victim
- Option: Patient
- Option: Carrier
- Option: Infected individual

10. What term refers to a non-cancerous tumor?

- Option: Malignant
- Option: Benign
- Option: Invasive
- Option: Combative

**Gap-Fill ( Fill in the blanks with the correct word from the vocabulary list. )**

11. The transmission of Brucellosis can occur through contaminated food and \_\_\_\_\_.

12. Modern techniques help detect melanoma at an early \_\_\_\_\_ in the progression.

13. Many patients take dietary supplements to aid in their overall \_\_\_\_\_ during



treatment.

14. Patients often feel overwhelmed when facing a cancer \_\_\_\_\_ like chemotherapy.

15. The virus hijacks healthy cells to reproduce and create an \_\_\_\_\_ within the body.

16. Therapists often guide patients to reconnect with their \_\_\_\_\_ for better mental health.

17. With effective treatment, it is possible for some cancers to be completely \_\_\_\_\_ from the body.

18. High levels of tension can negatively impact metabolism and \_\_\_\_\_ processes.

19. Certain genetic mutations can increase the risk of developing \_\_\_\_\_ like melanoma.

20. Invasive procedures often carry more risks than \_\_\_\_\_ options.

**Matching Sentences ( Match each definition to the correct word from the vocabulary list. )**



21. Recognising the early signs of a disease can lead to more effective treatment.
22. Health initiatives aim to promote awareness and prevent the spread of diseases.
23. Regular screening can help detect diseases in their earliest stages.
24. Benign tumors are non-cancerous and do not spread to other parts of the body.
25. A correct diagnosis is crucial for deciding the best course of treatment.
26. Melanoma is a serious form of skin cancer that requires immediate attention.
27. Understanding the transmission of infections is important for public health.
28. Chemotherapy is often used in the treatment of various types of cancer.
29. Metabolism refers to the process by which your body converts food into energy.
30. Genetic mutations can have significant impacts on an individual's health.

## Answer

**Multiple Choice:** 1. A bacterial infection 2. Invasive 3. Diagnosis 4. Chemotherapy 5. Oxidative 6. Prognosis 7. Screening 8. Metabolism 9. Carrier 10. Benign

**Gap-Fill:** 11. water 12. stage 13. health 14. diagnosis 15. infection 16. emotions 17. erased 18. healing 19. cancers 20. non-invasive

**Matching sentence:** 1. recognising 2. initiatives 3. screening 4. benign 5. diagnosis 6. melanoma 7. transmission 8. chemotherapy 9. metabolism 10. mutations

## CATEGORY

1. Health - LEVEL4

## POST TAG

1. B2
2. cancer cells
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