



Protein Shakes and Energy Drinks: Health Booster or Health Hazard?



Health and Diet – General Facts

1

Why is it important to have a healthy diet?

Eating the right food can keep you healthy now and later on in life. The food choices you make can have an important impact on your health.

2

Which foods are especially healthy?

Fruits and Vegetables; Foods with Fiber; Foods with Folic Acid; Foods with Calcium and Vitamin D; Foods with Protein

3

What food should I avoid or limit?

Fats; Sugar; Red Meat; Alcohol

4

How many calories do I need each day?

The number of calories you need each day depends on your weight, height, age, sex, and how active you are.

5

What if I have a question?

Contact your healthcare provider e.g. doctor, pharmacist, nurse and dietician.



Protein – a Macronutrient of Diet

1

Macronutrients Vs Micronutrients

Macronutrients are consumed in the largest quantities and provide bulk energy. Three primary macronutrients include carbohydrates, proteins and fats. Micronutrients are needed in very small amounts e.g. several minerals (such as sodium, calcium) and vitamins.

2

Protein Requirement

Protein should make up 10% to 35% of total caloric intake, as recommended by the United States Dietary Guidelines. Individuals should be counselled by healthcare providers to eat a variety of healthy protein-rich foods based on individual needs.

3

Protein-Rich Foods

Common sources of dietary protein include fish, meat, eggs, vegetables, milk, beans, peas, soy, nuts and seeds.

4

Protein Powders

Protein powders (e.g. casein, whey, soy) are also available.



What is a Protein Shake?

Protein shakes are powdered forms of protein.

Plant Based

- ☐ Soyabean
- ☐ Peas
- ☐ Rice
- ☐ Potatoes
- ☐ Hemp

Animal Based

Eggs or Milk
(Casein OR Whey Protein)

- These powders may include other ingredients such as added sugars, artificial flavouring, thickeners, vitamins, and minerals.
- The amount of protein may vary from 10 to 30 grams/scoop.
- Supplements used for building muscles contain relatively more protein, and supplements used for weight loss contain relatively less protein.



Common Uses of Protein Shakes in Society

1

Gym Junkies

Supplement for building muscles.

2

Weight Loss

As supplement in weight loss programmes.

3

Dietary Protein Replacement or Supplement

- Used by the elderly who do not consume enough protein due to reduced appetite or difficulty in eating or digestive problems.
- In a surgery or trauma patient whereby wound is not healing – protein helps repair cells and make new cells.
- In serious conditions requiring additional calories and proteins in order to get better e.g. burns.

What are the Health Hazards of Protein Shakes?

1

A protein shake is a dietary supplement. The FDA leaves it to manufacturers to evaluate the safety and labelling of products. So, it is difficult to know if a protein powder contains what the manufacturer claims.

2

Long-term side effects are unknown. There is limited data on the possible side effects of high protein intake from supplements.

3

It may cause digestive distress. People with dairy allergies or trouble digesting lactose can experience gastrointestinal discomfort if they use a milk-based protein shake.

4

It may be high in added sugar. The risk is a spike in blood sugar and weight gain. The American Heart Association recommends 24 grams added sugar per day for women and 36 grams for men.

New Risk Revealed

Researcher Screened 134 products for 130 types of toxins.

Many protein powders contained:

- ☐ **Heavy metals** (lead, arsenic, cadmium, mercury)
- ☐ **Bisphenol** (BPA, used to make plastics)
- ☐ **Some toxins are present in significant quantities.**
- ☐ **These toxins are generally linked with cancer and other health conditions.**

Not all the protein powders tested contained elevated levels of toxins.

What are the Health Hazards of Protein Shakes?

1

Long term use of high protein intake can lead to increased risk of osteoporosis and kidney problems.

2

Protein shakes especially those claimed for body builders

- Be careful about the presence of any hormones and steroids.
- Steroid major effects are rise in blood pressure, direct kidney and heart damage, liver impairment, acne, sexual abnormalities and enhanced aggression.
- Could be sold as combination of products with claims of fat or weight loss – DNP (2, 4-Dinitrophenol) is one such ingredient known for rapid weight loss among body builders. Other names for DNP include: Dinosan, Dnoc, Solfo Black, Nitrophen, Aldifen and Chemox. DNP has many harmful effects such as rapid heart beat, restlessness, flushed skin, fast breathing, nausea, vomiting, may cause cancer, heart and nervous system damage.

Professional Advice & Recommendation

1

Should Food Protein be advised to replace Protein Shakes?

No. It is not advisable in an otherwise healthy individual unless recommended by your healthcare provider for any specific clinical condition.

2

Advice for Gym Buddies and Weight losers

- Take your protein from protein rich foods.
- Just to fill in the gaps, you may use a reputable brand of protein supplement. Preferably, AVOID using any protein supplements.
- Read the label carefully and take the recommended serving size. Do NOT attempt to use more than necessary.
- If unsure, **ask your registered doctor, pharmacist or dietician.**

What is an Energy Drink?

- Advertised to boost mental and physical energy for a short period of time
- Contains a LOT of caffeine and other ingredients like taurine, ginseng or even stimulants
- May contain a LOT of sugar or use sweeteners in 'Zero' or 'Diet' versions
- Does not hydrate our bodies and is not the same as sports drinks

What is CAFFEINE?

- It is a stimulant and diuretic (substance that helps rid your body of fluids) and can be found in certain plants
- Can also be found in coffee, tea, colas
- There is no nutritional need for caffeine



What is in an Energy Drink?

To find out, look at the:

Nutrition Facts table

Ingredient list

High caffeine content

Maklumat Pemakanan		
Saiz hidangan : 100ml		
Bilangan saiz hidangan sebotol : 1		
	Sebotol (100ml)/ Sehidangan	
Tenaga	72 kcal	
Karbohidrat	16.5 g	
Jumlah gula	16.5 g	
Protein	0 g	
Lemak	0 g	
Niasin	20 mg	*NRV 111%
Vitamin B1	2.0 mg	143%
Vitamin B2	2.9 mg	181%
Vitamin B6	3.6 mg	180%
*NRV = Nutrient Reference Value		
Ramuan : Gula, Taurin (1000mg), Inositol, Niasin, Piridoxin, Riboflavin, Tiamin. Mengandungi kondisioner makanan (asid sitrik), bahan pengawet (natrium benzoat), bahan perisa yang dibenarkan dan kafeina.		

What to look for?

NRV is an abbreviation of 'Nutrient Reference Value'.

NRV levels on the daily amount of vitamin or mineral that the average healthy person needs to prevent deficiency.

This energy drink has more Vitamin B than you need in one day!!

What is in an Energy Drink?

SUGAR...AND LOTS OF IT



Nutritional Information

Nutrition

	Per serving 335ml
Energy (kcal)	162 kcal
Protein	0 g
Fat	0 g
Carbohydrate	38 g
Total sugars	38 g

Question: How many teaspoons of sugar do you think could be in an energy drink (335 mL)?

Answer: 9.5 teaspoons



What is in an Energy Drink?

TAURINE (an amino acid)

Claim: Regulates energy levels

Reality: Found in meat and meat alternatives and made by our bodies

Risk: Research has not determined the safety of supplementing with large doses

B VITAMINS – Thiamin, Riboflavin, Niacin, Pyridoxine (B6), Cobalamin

Claim: Energy regulation

Reality: Found in many food sources such as whole grains, bananas, beans and meat

Risk: High intake of some vitamins can have negative health effects such as skin rashes

What is in an Energy Drink?

GINSENG

Claim: Provides energy and mental alertness

Reality: Little or inconclusive research to support the claim

Risk: Some people may experience insomnia, anxiety or headaches



GINGKO

Claim: Helps with mental alertness

Reality: Little or inconclusive research to support the claim

Risk: May interfere with blood clotting



Are Energy Drinks Safe for Everyone?

No! Pay attention to **CAUTION** statements if any:

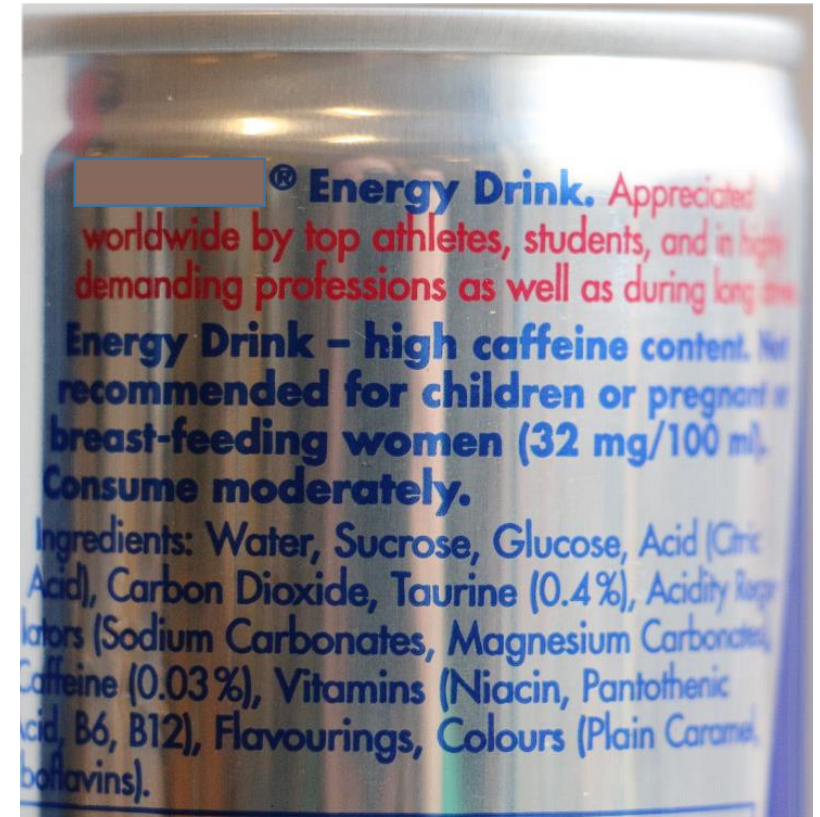
High caffeine content.

Not recommended for children or pregnant or breast-feeding women.

Consume moderately.

Other **RISKS** associated with excessive energy drink consumption

- **Large amounts of caffeine** can cause palpitations and high blood pressure
- Caffeine used may also be associated with anxiety, sleep problems, digestive problems and dehydration
- Type 2 diabetes from excessive sugar intake



Conclusion

- Be an informed consumer – KNOW YOUR LIMITS
- Keep in mind that better choices such as having a balanced diet, sleep, fluid and exercise make better fuel than energy drinks
- Energy drinks do not give you any health benefits or lasting energy
- Long term safety of energy drinks are unknown

Extra Tips

- Community pharmacies provide various value-added services and health programmes in addition to medication counselling.
- Visit your nearest community pharmacy if you wish to have more information and counselling on weight management, health supplements, protein powders and energy boosting products.
- Talk to your pharmacist at the community pharmacy.

Visit your friendly neighbourhood
PHARMACIST

Your
**MEDICATION
EXPERTS**



Pharmacist saved my life, says customer with DVT



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Thank You