

MSG AND THE HUMAN PHYSIOLOGY

MSG has been a topic of controversy in America for quite awhile. This poster seeks to clarify some myths and hopefully impart valuable information to those interested in learning about as well as consuming MSG.

MSG

MSG TODAY

- At present, MSG is a common ingredient widely used in processed foods and restaurants.
- MSG is derived from L-glutamic acid, a chemical naturally present in many foods.
- Antagonists of MSG make claims that the consumption of MSG can lead to a variety of negative effects on the body.
- Recently, there are many studies that contradict previous research stating that MSG is harmful.
- The Food and Drug Administration (FDA) has classified MSG as a safe ingredient for food.

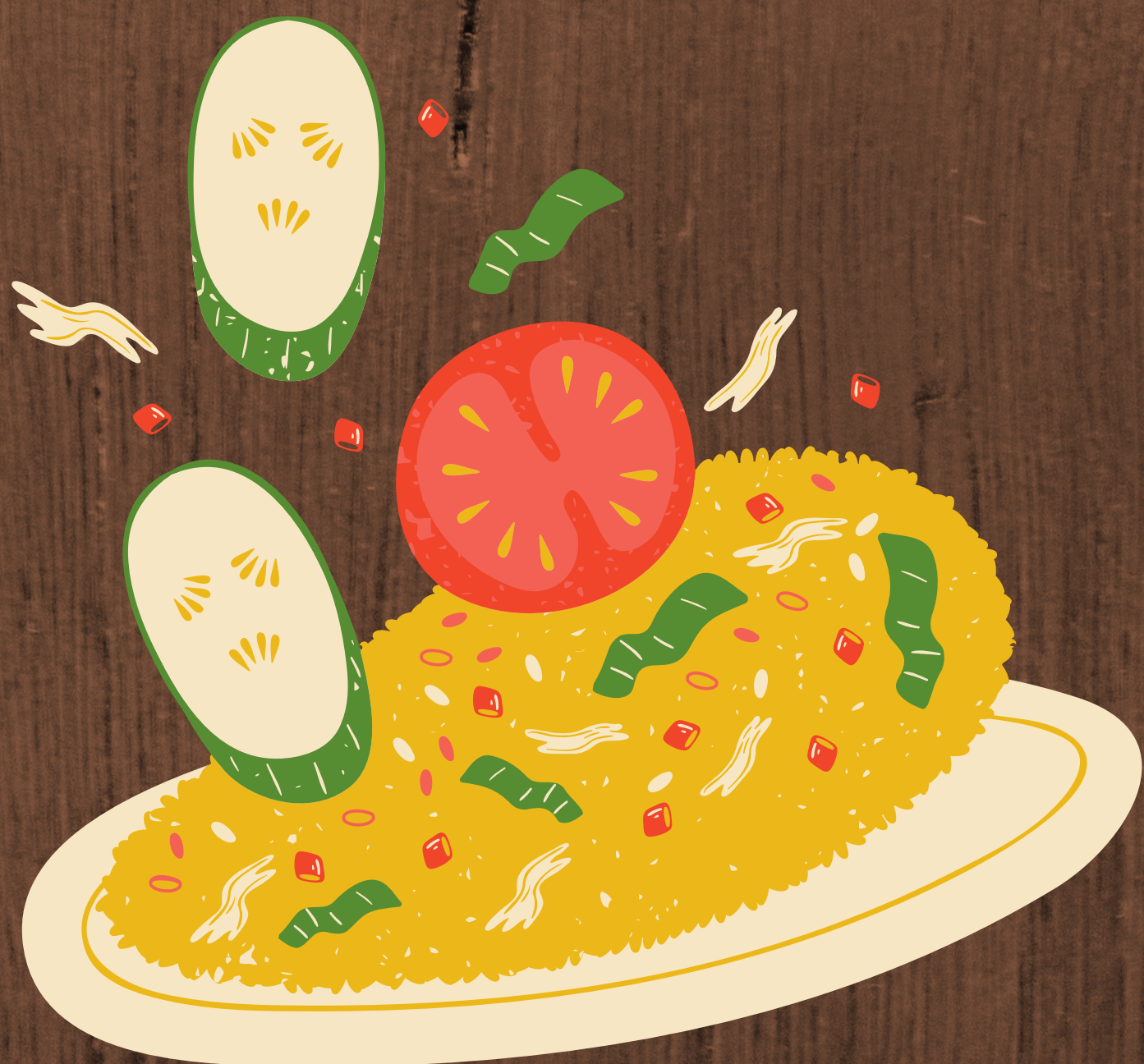


WHAT'S NEW WITH MSG

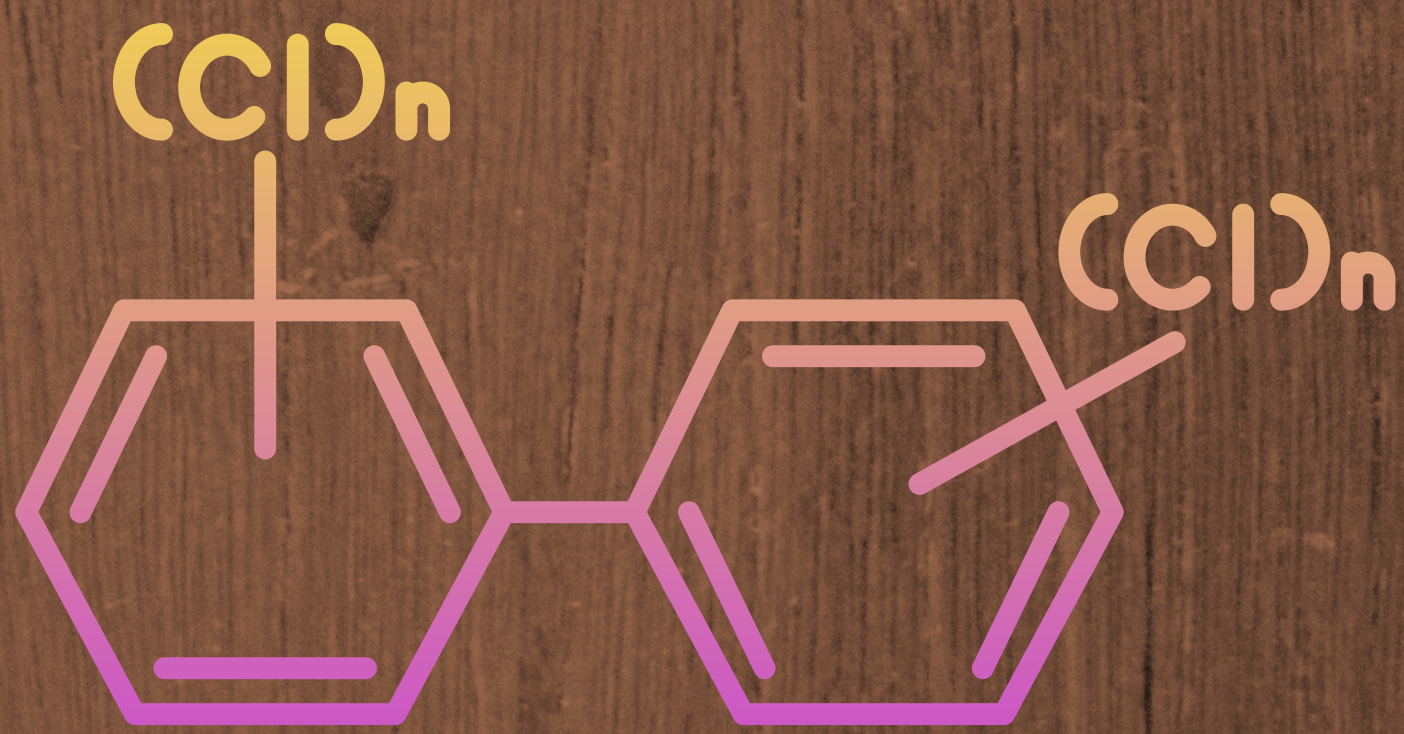
- Some individuals can be sensitive to MSG which can be attributed to its negative effects and may be one of the reasons for the negative light it had for so many years.
- The glutamate in MSG is chemically indistinguishable from glutamate present in food proteins. Our bodies ultimately metabolize both sources of glutamate in the same way.
- The FDA has received reports of nausea and headache after eating foods with MSG. However, the organization hasn't confirmed if the cause is solely MSG.
- MSG is slowly beginning to be considered as an alternative for salt as it contains only a third of the sodium that table salt contains.

Common foods that contain MSG are

- Animal-based protein: chicken, beef, salmon, mackerel, scallops, crab, shrimp
- Cheese: Parmesan, Emmenthal, cheddar, Roquefort
- Vegetables: tomatoes, onions, cabbage, green peas, spinach, mushrooms, broccoli
- Processed meats: pepperoni, bacon, pastrami, sausages, salami
- Sauces and dressings: soy sauce, ketchup, mustard, mayonnaise, barbecue sauce, salad dressings
- Premade and packaged foods: canned soups, canned tuna, frozen meals, crackers, potato chips, flavored snacks
- Condiments: seasoning blends, rubs



- Sensitivity can be experienced if consumed in large quantities such as 3 g without food, but when eaten in moderation as salt would typically be used and with food, there are no signs of negative effect.
- The normal serving size would be less than 1 g so someone would most likely not reach those levels if consumed appropriately.



BIOCHEMISTRY

- The human gastrointestinal tract as well as the nervous system contains transporters and receptors for glutamate. The catabolism of glutamate takes place mainly within the intestine.
- Studies have found that under normal conditions, dietary glutamate is either metabolized or oxidized to CO₂ by the gut. However, excess intake of glutamate up to 3-4 fold will result in its use for ATP generation or conversion into other amino acids.



Complications

- Over the years, FDA has received reports of symptoms such as headache and nausea after eating foods containing MSG. However, claims were never confirmed that the MSG caused the reported effects.
- FASEB's report concluded that MSG is safe and identified some transient, and generally mild symptoms, such as headache, numbness, flushing, tingling, palpitations, and drowsiness that may occur in some sensitive individuals.

CONCLUSION

- Although MSG has been the target of contempt, studies show that there is no evidence to support the negative side-effects being reported.
- Many foods found in the stores contain MSG and are widely used in restaurants across the country.
- With little to no side-effects and its flavor enhancing abilities, MSG may come to replace salt at the table.

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