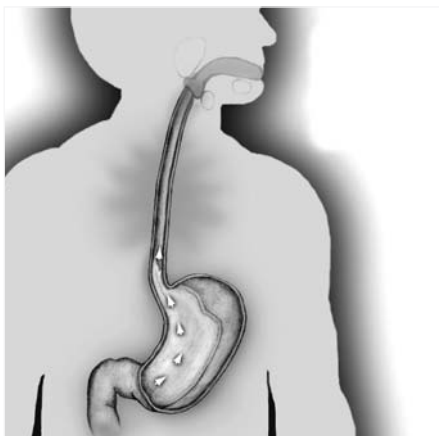


Acidity

Acidity refers to a set of symptoms caused by an imbalance between the acid secreting mechanism of the stomach and proximal intestine, and the protective mechanisms that ensure their safety. The stomach normally secretes acids essential for the digestive process. These acids help in breaking down food during digestion. When there is excess production of acids by the gastric glands of the stomach, it results in acidity. Nowadays, our lifestyle and dietary habits are such that they increase the acidity level of the body. Acidity is also responsible for dyspepsia, heartburn and the formation of ulcers (erosion of the lining of the stomach or intestines).

Acidity is measured in terms of pH. In humans, the normal pH of all tissues and fluids of the body (except the stomach) is slightly alkaline. The acid-base balance of our blood plays an important role in normal day to day functioning of our body. Even a slight imbalance



Reverse flow of acid

affects the vital functions of the organs, resulting in various health problems.

Acidic, alkaline solutions and pH

The term pH stands for power or 'potential of Hydrogen'. It is the negative logarithm of effective hydrogen ion concentration or hydrogen ion activity in gram equivalents per litre of the solution. It is measured on a scale of 0 to 14 (neutral is seven).

The lower the pH, the more acidic the solution and the higher the pH, the more alkaline. For example, a pH of 5 is more acidic than a pH of 6 and a pH of 9 is more alkaline than a pH of 8. Water (H_2O) is made of one hydrogen (H^+) and one hydroxyl (OH^-) ions. When these ions are in equal proportions, the pH is a neutral 7. When there are more H^+ than OH^- ions, then the solution is acidic.

If OH⁻ ions outnumber the H⁺ ions, then the solution is alkaline. The pH scale is logarithmic, which means that each step is 10 times different than the previous level. In other words, a pH of 4.5 is 10 times more acidic than a pH of 5.5 and 100 times more acidic than a pH of 6.5.

What is normal pH level?

In healthy adults, the pH levels of blood, spinal fluid and saliva is approximately 7.4. The pH of the blood is most critical. All other organs and fluids fluctuate in their values to keep the blood pH level strictly between 7.35 and 7.45 (slightly alkaline). This process is called homeostasis. The body makes constant adjustments in tissue and fluid pH to maintain this very narrow pH range in the blood. This creates stress on other tissues or body systems. For example, the body draws the necessary calcium from bones and other alkaline substances, such as the muscles, so that the heart and brain function at full levels.

Importance of proper pH balance

Virtually all degenerative diseases, including heart disease, arthritis, osteoporosis, kidney/gallbladder stones and tooth decay, are associated with excess acidity in the body. Cancer and many other diseases cannot exist in an alkaline environment.

When the pH of the body gets out of balance and becomes too acidic, we may experience low energy levels, fatigue, excess weight, poor digestion, aches and pains and other more serious disorders. The symptoms listed on page 41-42 become more prominent.

Regardless of your current health situation, you can monitor your progress toward a proper acid-alkaline balance by testing your saliva's pH. The pH of our saliva parallels with that of the extracellular fluid and represents the most consistent and definitive physical sign of the ionic calcium deficiency syndrome.

How to test pH of saliva?

The acidity level of the human body is not routinely checked. During endoscopy, it is sometimes measured in terms of the pH levels of gastric juices. However, there is a simple way to test the pH level of saliva.

I have shown a sample of a strip on page 35. For testing the pH of saliva, a red coloured thin liquid called pH testing liquid (measuring 5 ml) is available with all big chemists. If you mix your saliva with this liquid, then the colour changes to one of the eight colours, as shown in the picture on page 36.

Another way to test the saliva (and also urine) pH is to use a pH test strip kit. The pH of the non-deficient and healthy person is in the slightly alkaline range of 7.3 (dark blue) to 7.1 (blue). The range from 6.5 (blue green), weakly acidic, to 4.5 (light yellow), strongly acidic, represents states from mildly deficient to strongly deficient, respectively.

The pH of the saliva of a newborn child is normally 7.35 (strongly alkaline). More than half the adults show a pH of 6.5 or lower, reflecting calcium deficiency, due to aging and lifestyle defects. A cancer patient's test result will usually show a bright yellow (a pH of 4.5), especially when the cancer is terminal. You should endeavour to keep the pH of your saliva at 7+ level. Then, you will have no health problems.

Acidity facts

- Rain, in forests, is alkaline, but in cities, it is acidic, due to industrial pollution.
- Sea, spring, river and flowing water (naturally occurring water) are alkaline.
- Chlorinated tap and swimming pool water are acidic.
- Primarily, only raw green vegetables and fruits are alkaline, whereas, most other common foods that we eat are acidic.
- Nature recommends a diet of 20% acidic and 80% alkaline food. However, we normally eat 80% acidic and 20% alkaline food.
- Lemon juice tastes sour because it contains 5% to 6% citric acid and has a pH of 2.2. (high acidity)
- The stomach acid is quite strong. Its pH is between 3 and 5. At this pH, it can dissolve deep fried and difficult to digest foods. The stomach secretes around 1.5 liters of acid per day.

How does the body become too acidic?

The body becomes imbalanced and overly acidic, primarily as a result of three things:

Ingesting acids

Eating too many acidifying food, such as processed sugar, meats, dairy products, coffee and alcohol, create an acidic ash in the body. These acids can overload the body's ability to neutralise them.

Creation of acids

Pathogens create acidifying toxins in the body. As the body becomes more acidic, more and more harmful bacteria and yeast proliferate in the body. These organisms eat as well as procreate, resulting in more toxins that are often very acidifying.

Improper elimination of acids

Some acids are weak while others are strong. Weak acids, such as citric acid, are more easy to neutralise than strong acids, such as uric acid. The body uses many systems to buffer acids, including breath, mineral reserves and fat. When the body's buffering systems are compromised, acidity increases.

Effects of acidity

Maintaining the proper pH in the blood, digestive tract, tissues and fluids is essential for optimal health. High levels of acidity in the body can have far reaching consequences. For example, if the blood becomes too acidic, then:

- It takes some of the alkaline forming elements from the enzymes in the small intestine to stay balanced. The small intestine then becomes less alkaline to digest food optimally. The pancreas, gallbladder and liver are forced to make up for this deficiency to metabolise food properly. This has a direct bearing on metabolic enzyme production, which is involved in every biochemical reaction in the body. The resulting problems are lowered immune function, fatigue, hormonal imbalances, absorption and digestive problems.
- The bones lose calcium, the most alkaline mineral in the body. This can lead to reduced absorption of supplemental minerals and bone density problems.

- Insulin levels increase and fat gets stored instead of being metabolised. When malnutrition or starvation sets in, the body becomes acidic and, as a safety measure, insulin is overproduced so that all available calories are stored as fat for future use. As a result, weight gain takes place. Once obesity sets in, weight loss becomes difficult.
- Electrolyte imbalances occur, which have a direct bearing on the fluid transport system. Electrolytes are important because the cells, especially nerves, heart and muscles, use them to maintain voltages across their cell membranes.
- Additional stress is placed on the kidneys, gallbladder, pancreas and other organs.

Hyperacidity

It is a widespread common disorder. If not treated in time, it leads to ulcer formation in the digestive tract. Chronic hyperacidity interrupts all cellular activities and functions, and interferes with life itself.

Causes

It is mainly caused when hydrochloric acid, an important component of the digestive juices, is produced in excess, due to the following:

- Smoking and alcohol consumption
- Excessive intake of hot, spicy and fried food
- Excessive intake of chocolate, tea and coffee
- Intake of sweets, adulterated, fermented and fatty food
- Use of aspirin and other anti-inflammatory drugs
- Stress-related conditions, such as anger, fear and anxiety
- Fast paced lifestyle, career/job over-consciousness, cooked food, changes in sleep patterns, acidic environment due to vehicle exhaust fumes and industrial waste

Symptoms

Acidity or hyperacidity may manifest in more ways than those listed below. This list is not exhaustive:

- Burning sensation, pain or discomfort in the throat and chest (behind the breastbone) known as heartburn
- Blood in stool

- Headache
- Lack of appetite
- Nausea
- Pain in the abdomen, either immediately after meals (gastric ulcer) or two hours after meals (duodenal ulcer)
- Persistent cough
- Sour oral secretion/belching, with an acidic taste in the mouth, due to regurgitation of acidic fluid in the throat or mouth
- Vomiting, sometimes accompanied with blood

Acidity Cleanse

If your saliva pH is too acidic, you may have to increase the alkalinity of your body. This can be done by including green vegetable juices in your diet. Green juices are a potent fuel in maintaining good health; and they do not come burdened with fats that accompany animal products.

Green vegetable juices

Fresh green vegetable juices work as detoxification drinks and have a powerful effect on the recuperative powers of the body, because of rich and easily absorbable nutrients. Fresh vegetable juices contain proteins, carbohydrates, chlorophyll, mineral electrolytes and healing aromatic oils. Most importantly, a fresh juice makes large amounts of plant enzymes available to every cell in our body, an integral part of the healing and restoration process.



Blood tonic - chlorophyll

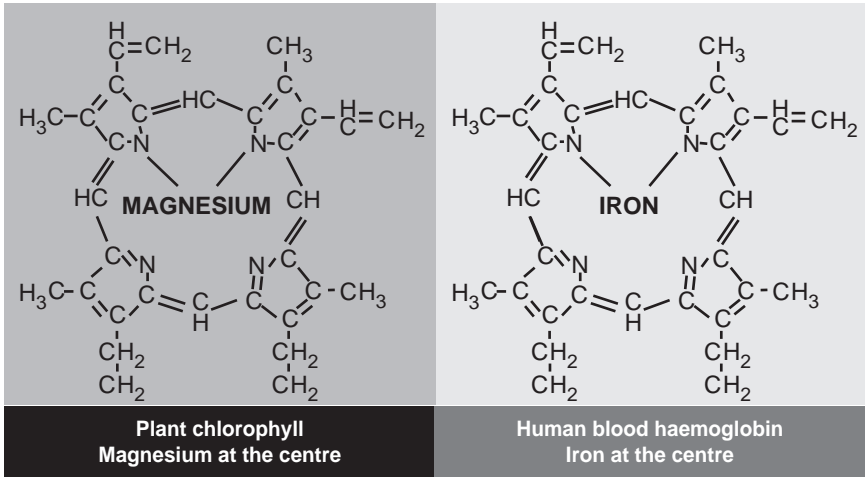
Green vegetable juices also contain large amounts of vitamins B₁ (Thiamine), B₂ (Riboflavin), B₆, B₁₂, C, carotene, choline, folic acid and pantothenic acid. They are high in minerals, such as calcium, copper, iron, magnesium, manganese, potassium and phosphorus. They are full of enzymes useful for digestion and assimilation; some contain over a hundred known enzymes necessary for human cell response and growth.

Green drinks also have anti-infective properties. They remove acid wastes, increase body pH levels, and are an excellent source for mucus cleansing. They can also help in clearing the skin, cleansing the kidneys, purifying and building blood supply.

Green drinks are critical to the success of not only the Acidity Cleanse but also for every cleansing program. The chlorophyll present in various green juices is highly alkaline and forms the basis of our treatment.

Blood tonic - chlorophyll

The molecular composition of chlorophyll is very close to that of human haemoglobin. These drinks can act as mini-transfusions of blood and tonic for the brain and the immune system, since chlorophyll is absorbed directly into the blood stream.



Comparison of human blood haemoglobin and plant blood chlorophyll

Formula of human blood (haemoglobin) - $C_{34}H_{32}O_4N_4ClFe$

Formula of plant blood (chlorophyll-b) - $C_{55}H_{72}O_5N_4Mg$

Blood and chlorophyll resemble each other structurally in the following manner:

1. Both have porphyrin nucleus. Also, the substitutions in 1, 3, 5, 8 (methyl groups) and 2 (vinyl group) positions are the same.
2. Both yield porphyrin upon degradation.
3. Both are composed of carbon, hydrogen, oxygen and nitrogen.
4. Both have metallic portion in a complex form. There is iron in blood and magnesium in chlorophyll.

How to make vegetable juice?

Only use clean and fresh vegetables. You may combine different vegetables in any proportion to suit the needs of your body and taste. Organically grown vegetables are preferred.

Alternatively, they may be soaked overnight in potassium permanganate ($KMnO_4$) solution. I use fresh vegetables (which may have been cultivated using pesticides and fertilisers), purchased from

the ordinary market, without potassium permanganate.

I feel that after undergoing numerous Kidney and Liver Cleanses, the immunity of the human body is sufficiently enhanced to fight the detrimental effects of pesticides and fertilisers.

Do not mix fruits and vegetables while extracting the juice. Wash the vegetables, cut them into small pieces and put them in a juicer. Buy a juicer if you don't have one. Meanwhile, you may use a mixer-cum-grinder. Strain this mixture through a coarse strainer (छननी) with large holes, so that you get enough fibre. The large holes in the strainer allow medium and small pieces of fibre to flow with the juice. Only large pieces, which you find difficult to swallow are strained. The residual green paste can be used in chapati flour.

Drink it fresh, since it spoils quickly. Do not use it beyond 1½ days, even if it has been stored in the fridge. For example, if you have prepared the juice today morning, you can use it only until tomorrow evening.

Check whether your stool sinks or floats

Whether your stool sinks or floats is dependent on its fat as well as water soluble content. Stool that has spent a relatively long time in the large bowel (constipation) will have had most of the water removed and will be dense and heavy, so, it will sink. In comparison, when someone is suffering from diarrhoea, the stool is rushed along the large intestine and very little water gets removed. This results in loose stool, which tends to float.

The condition that can affect the colour and density of stool is malabsorption, where some of the vital nutrients from the diet are not absorbed by the small intestine and are left in the stool. This occurs when the pancreatic gland is not working properly, and can result in the passage of large, pale coloured stool, which floats due to the high fat content. Sometimes, they float due to microscopic air bubbles, trapped inside.

Whatever be the condition, observe your stool after drinking 200 ml of green vegetable juice three times a day for a week. Ingested food will be well digested and absorbed. All the fat will be properly metabolised, the stool will become soft and will sink.

Dosage

Remember that I want you to take enough fibre, chlorophyll, proteins, carbohydrates, mineral electrolytes and nutrients in their natural form. Drink one glass (200 ml) three times a day (nearly 600 ml in a day). After that, decide on the quantity best suited to you. Modify the dosage according to the tolerance level and physical condition of your body. Bear in mind that it is impossible for us to imbibe these juices in excess, since nature has designed us to eat raw food and has provided an inbuilt limiting mechanism that helps us know when to stop.

Witness the miraculous cure, for all your problems, unfold within a week. Many of my friends have replaced their morning tea with a glass of green vegetable juice. Drinking this fresh green juice overnight fights stomach acidity and provides a great start to the day.



Ingredients and tools to make green juices

Green vegetable juices

The juices included here have been used with therapeutic success for many years. You can be confident about their nutritional healing and regenerative ability. A random selection from the following vegetables can be used to start with, in the same or lesser quantity.

Vegetable	Hindi name	Parts to be used			Quantity (gms)
		Skin	Stem	Seeds	
Alfalfa sprouts	अंकुरित अल्फाल्फा	N/A	N/A	N/A	50
Beetroot	चुकन्दर	Yes	Yes	N/A	100
Bitter gourd	करेला	Yes	No	Yes	100
Bottle gourd	लौकी	Yes	No	Yes	500
Cabbage	पत्ता गोभी	N/A	No	N/A	250
Capsicum	शिमला मिर्च	N/A	No	No	250
Carrot	गाजर	Yes	Yes	N/A	200
Celery	सेलेरी	N/A	Yes	N/A	200
Cucumber	खीरा	Yes	Yes	Yes	500
Garlic	लहसुन	No	No	N/A	25
Ginger	अदरक	Yes	No	N/A	25
Goose berry	आँवला	Yes	No	No	50
Green tomato	हरा टमाटर	Yes	No	Yes	250
Lemon	नींबू	Yes	N/A	No	50
Mint	पुदीना	N/A	No	N/A	50
Parsley	पार्सली	N/A	No	N/A	200
Radish	मूली	Yes	Yes	N/A	100
Spinach	पालक	N/A	No	N/A	100
Turnip	शलगम	Yes	Yes	N/A	100

N/A - Not applicable

- Note:** 1) Parsley, celery, chinese kale, collard and alfalfa sprouts are available at shops that sell foreign vegetables.
- 2) All citrus fruits, e.g., orange and lemon, are acidic, however, all juices are digested in the stomach and give an alkaline effect, as desired. It can be verified by burning the juice of these fruits. The residue will come out to be alkaline in a litmus test.

Special vegetable juices

Some specific combinations for individual needs are given below. Try them thrice daily for a week to notice a difference. You may omit any vegetable, if it is not available or does not suit you:

1.	Potassium juice Make juice using three carrots, three celery stalks, one bunch of spinach and one bunch of parsley. This is the single most effective juice for cleansing, neutralising acids and rebuilding the body. It is a blood and body tonic that provides rapid energy and system balance.
2.	Personal best V-8 Make juice using eight green tomatoes, four green onions with tops intact, one capsicum, two carrots with tops intact, two celery stalks, one bunch of spinach, one bunch of parsley and two lemons. Personal best is a high vitamin/mineral drink for normalising body balance.
3.	Cleansing energy tonic Make juice using four cups of mixed sprouts (e.g., sunflower and/or <i>moong dal</i>), one large carrot, one celery, one cucumber and one green onion. It is a good afternoon 'pick-me-up' juice during a seven day cleanse.
4.	Kidney flush Make juice using four carrots with tops intact, one cucumber, four beets with tops intact, one handful of spinach and four celery stalks. Kidney flush is a sure shot kidney cleanser and diuretic, with high levels of potassium and other minerals.
5.	Fungi/yeast cleanser Make juice using one bunch of parsley, two garlic cloves, six carrots and two celery stalks. This juice is beneficial in treating all type of fungi and yeast problems.

<p>6.</p>	<p>General health tonic Make juice using four carrots, one cucumber and two celery stalks. Regular intake of this tonic increases stamina and vitality.</p>
<p>7.</p>	<p>Prostate cleanser Make juice using two large handfuls of mixed dark green leaves, especially spinach, chinese kale, collard and dandelion and three large green tomatoes. This juice can be had regularly after the age of fifty for better prostate health.</p>
<p>8.</p>	<p>Skin cleanser Make juice using one cucumber, one bunch of fresh parsley, 100 gms of alfalfa sprouts and four sprigs of fresh mint. This deep green cleanse nourishes and tones skin tissues from within.</p>
<p>9.</p>	<p>Excess body fluid/water cleanser Make juice using one cucumber, one beet, one radish, one apple without seeds and four carrots with tops intact. You can lose a couple of kgs by drinking this juice.</p>
<p>10.</p>	<p>Calcium/magnesium juice Make juice using two garlic cloves, one handful of parsley, one cucumber, four carrots with tops intact and two celery stalks. This helps in reducing high blood pressure.</p>
<p>11.</p>	<p>Arthritis relief detox Make juice using a large handful of spinach, a large handful of parsley, a large handful of watercress, five carrots with tops intact and three radishes. Arthritis relief detox increases the flexibility of all joints and can be done along with a Joint Cleanse.</p>
<p>12.</p>	<p>Bladder infection detox Make juice using three broccoli flowerets, one garlic clove, two large green tomatoes, two celery stalks and one capsicum. This detox juice increases bladder health and cures Urinary Tract Infections (UTI).</p>

13.	<p>Cleanse for Crohn's disease and colitis</p> <p>Make juice using three handfuls of greens - one bunch of spinach, one bunch of parsley and one bunch of chinese kale or collard; and three beets with tops intact, five carrots, one capsicum and one apple without seeds.</p> <p>You can get relief in colitis and other digestive problems by drinking this juice regularly.</p>
14.	<p>Diverticulitis detox</p> <p>Make juice using one large handful of parsley, one small green cabbage, two large green tomatoes, four carrots with tops intact, four garlic cloves and two celery stalks.</p> <p>This juice not only brings relief in case of diverticulitis, but also promotes over all digestive health.</p>
15.	<p>Piles and varicose veins detox</p> <p>Make juice using three handfuls of dark greens, such as chinese kale leaves, parsley, spinach or watercress and five carrots with tops intact, one green bell pepper and two tomatoes.</p> <p>Due to excess vitamin C, calcium and bioflavonoid, collagen production increases, which helps in growth of new elastic tissues.</p>
16.	<p>Constipation cleanser</p> <p>Make juice using one small green cabbage, three celery stalks and five carrots with tops intact.</p> <p>You can benefit in almost all types of constipation problems by drinking this juice for a few days every month.</p>

Fruit juices for specific needs

Drinking fruit juices are a quick wash for the insides of your body. Their high water and sugar content speeds up metabolism and releases wastes quickly. The alkalising effects of these juices helps in reducing sweet cravings:

1.	<p>Blood builder</p> <p>Make juice using two bunches of grapes, six oranges and eight lemons. Mix the juice with two cups of water and four teaspoons of honey.</p>
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2.	Allergy cleanser Make juice using fresh ginger root, one fresh lemon, six carrots with tops intact and one apple.
3.	Stomach cleanser and breath refresher Make juice using one bunch of grapes, one basket of strawberries, three apples and four mint sprigs.
4.	Prostate purifier Make juice using one lemon, one inch of sliced ginger and one bunch of green grapes.
5.	Piles and varicose vein detox Make juice using one cup of cherries without seeds, one bunch of green grapes, two slices of a pineapple, one apple and one inch of sliced ginger.
6.	Arthritis and bursitis detox Make juice using two peeled oranges, two pineapple slices and one apple.
7.	Constipation cleanser Make juice using one firm papaya, one inch of sliced ginger and one pear.
8.	Acne fighter Make juice using two pineapple slices, one cucumber, one apple and one inch of sliced ginger.

Home remedies

To get immediate relief from acidity, try any of the following:

- Drink 200 to 500 ml of cold milk
- Drink sugared cold water
- Eat tender pulp of coconut
- Drink coconut water
- Eat watermelon, banana or cucumber
- Chew basil (तुलसी) leaves
- Drink fresh mint (पुदीना) juice
- Suck on a clove or chew an almond
- Drink cold banana milk shake

Frequently asked questions

1. Is it possible to survive only on vegetable juice for a week?

Yes, it is a wonderful experience. Initially, you will have craving for mastication. In such a case, you can eat carrots or cucumbers.

2. How many times a day should I drink this vegetable juice?

Initially, try to drink at least one glass (200 ml) three times a day. Observe the results for a week. Later, you may decide the quantity that best suits your body and lifestyle.

3. What if I eat raw vegetables instead of making juice? Will it have the same effect?

You will get more benefit from the extra fibre if you eat raw vegetables. However, the quantity consumed is very important. It is not practical to eat large quantities of raw vegetables necessary for the desired benefit, and so, I have advised juices for convenience.

4. Isn't there a possibility of getting an infection while drinking the green juices as the vegetables are cultivated in unhygienic conditions?

Eating raw vegetables or drinking their juice is unlikely to cause any harm. We eat raw vegetable salads in restaurants. You already have good levels of immunity in your body. You can raise your immunity levels further by doing Kidney and Liver Cleanses. If you wish, soak the vegetables overnight in a solution of potassium permanganate (KMnO_4) for safety.

The normal immunity level of a common person is very good. On Dec 02, 2015, the entire city of Chennai was flooded. Sewer water got mixed with the water supply provided by municipal corporation at some places. However, there were no outbreaks of diseases or epidemics. This was not due to spraying of insecticides or pesticides, but because general immunity levels of people are good. I am also against drinking bottled or so called mineral water. Regular tap water is good enough for 98% of the urban population. The remaining 2% also have good immunity levels, but the marketing jargon of water bottling companies confuses the consumer. They decide to avoid risks and follow the advise of drinking bottled or mineral water.

I drink tap water without any problems. Don't we rinse our mouths and gargle after brushing with regular tap water? Only a few drops

of contaminated water may have enough germs to make us sick. However, we rarely fall sick even though we use tap water regularly.

5. Should I boil the vegetables for juice?

No. You will get a vegetable soup if you boil them. They are not even supposed to be heated.

6. Can we add salt to the juice?

Yes, you may add salt to taste.

7. Can we add lemon juice to it?

Yes, you may add lemon juice without seeds.

8. Can red tomatoes be used instead of green tomatoes to make vegetable juice for an Acidity Cleanse?

Unripe and raw green tomatoes have greater nutritional value and a lot of chlorophyll. The alkalinity of green tomatoes is far more than the red ones and hence, they are the preferred choice. Nature turned ripe tomatoes red so that birds and animals identify them as food.

9. During an Acidity Cleanse, I pass more gas than normal. Is it ok?

Some vegetables have a tendency to make gas in stomach. Identify those vegetables and remove them from your list. They may be cauliflower, radish or beans. Some people develop it for a few days, but it settles down on its own. This gas is odourless. However, if any of the vegetables cause you some short of discomfort, you can avoid it.