

AYURVEDA AND INTEGRATIVE MEDICINE FOR IMMUNITY



AKIL PALANISAMY, MD

April 8, 2020





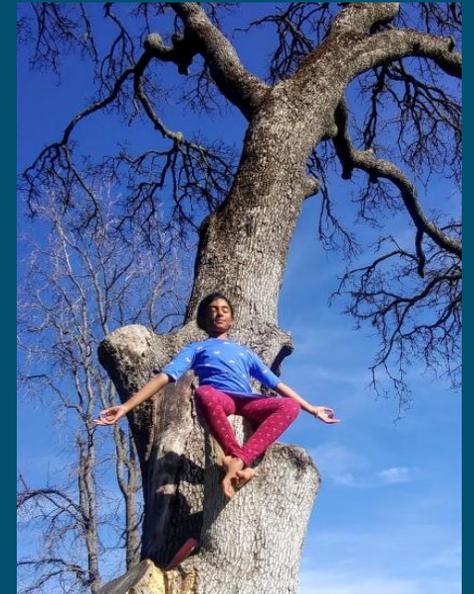
Food



Herbs/ Spices



Detox



Lifestyle



AYURVEDA: ANCIENT WISDOM FROM INDIA

Ayu - life
Veda - science

over
3000 years
oldest systems of
medicine

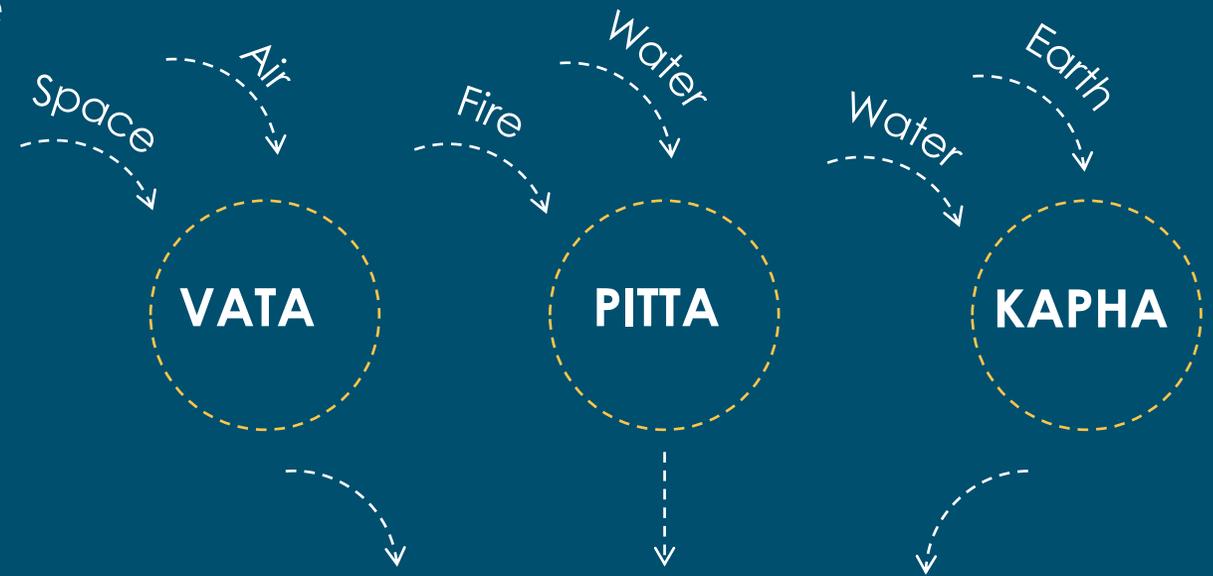
**“When diet is wrong,
medicine is of no use.
When diet is right, medicine
is of no need.”**

~ Ayurvedic proverb



THE PHILOSOPHY OF AYURVEDA

- 5 elements concept of the universe
- Body's innate self-healing ability
- A way of life
- Personalized & individualized program
- Detoxification and rejuvenation

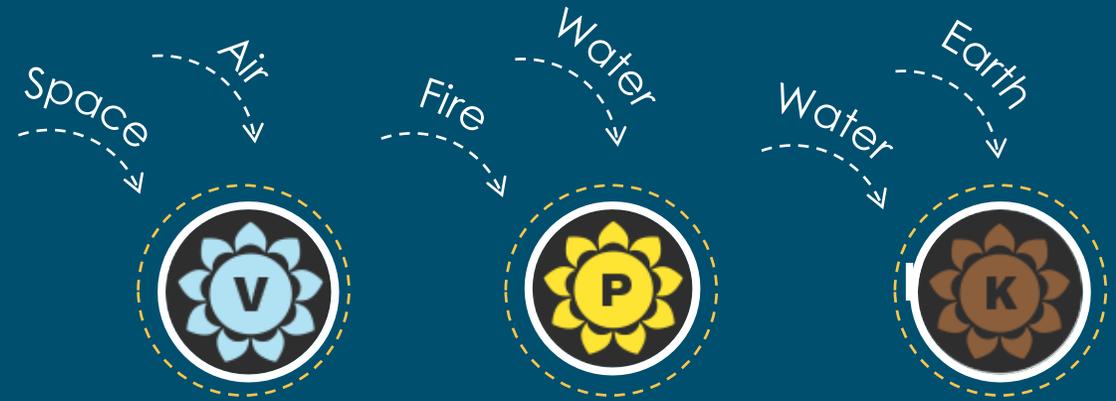


All functions of the body



THE THREE DOSHAS

- **Balance** between *doshas*, and body, mind, and spirit, **results in health**
- **Prakruti** – “body type”, the original state of doshas
- **Vikruti** – current state of doshas



All functions of the body



CONCEPTS OF OJAS AND SUBTLE ESSENCES

Prana – subtle vata element, responsible for the processes of circulation, digestion, and excretion

Tejas – counterpart of pitta, regulates cellular metabolism, intelligence and digestion

Ojas – a vital substance that is the refined end product of digestion, made from all 7 *dhatu*s or tissues, linked to kapha, responsible for strong immunity, vigor, and longevity



IMMUNITY MATTERS

The screenshot shows the top portion of a research article on the Nature Medicine website. The header is dark red with the 'nature medicine' logo in white. Below the header, the article title is prominently displayed in bold black text. The authors' names are listed in a smaller font below the title. On the right side of the page, there is a navigation bar with icons for Search, E-alert, Submit, and Login. Below this is a blue button for 'Download PDF'. Further down, there is a section for 'Associated Content' which includes a 'Collection' link for 'Coronavirus'. At the bottom of the right sidebar, there are tabs for 'Sections', 'Figures', and 'References', with 'Sections' currently selected. Below these tabs are links for 'Reporting Summary', 'Data availability', and 'References'. At the bottom left of the article content, there is a citation line and a metrics bar showing 325k accesses, 2 citations, and 3037 altmetric scores.

nature medicine

Correspondence | Published: 16 March 2020

Breadth of concomitant immune responses prior to patient recovery: a case report of non-severe COVID-19

Irani Thevarajan, Thi H. O. Nguyen, Marios Koutsakos, Julian Druce, Leon Caly, Carolien E. van de Sandt, Xiaoxiao Jia, Suellen Nicholson, Mike Catton, Benjamin Cowie, Steven Y. C. Tong, Sharon R. Lewin & Katherine Kedzierska

Nature Medicine (2020) | Cite this article

325k Accesses | 2 Citations | 3037 Altmetric | Metrics

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Sections Figures References

Reporting Summary
Data availability
References

Days following symptom onset, a large number of specialized helper T cells, killer T cells, and B cells — all of which are crucial immune cells — were active in the patient's blood samples



ALL DISEASE STARTS IN THE GUT

1

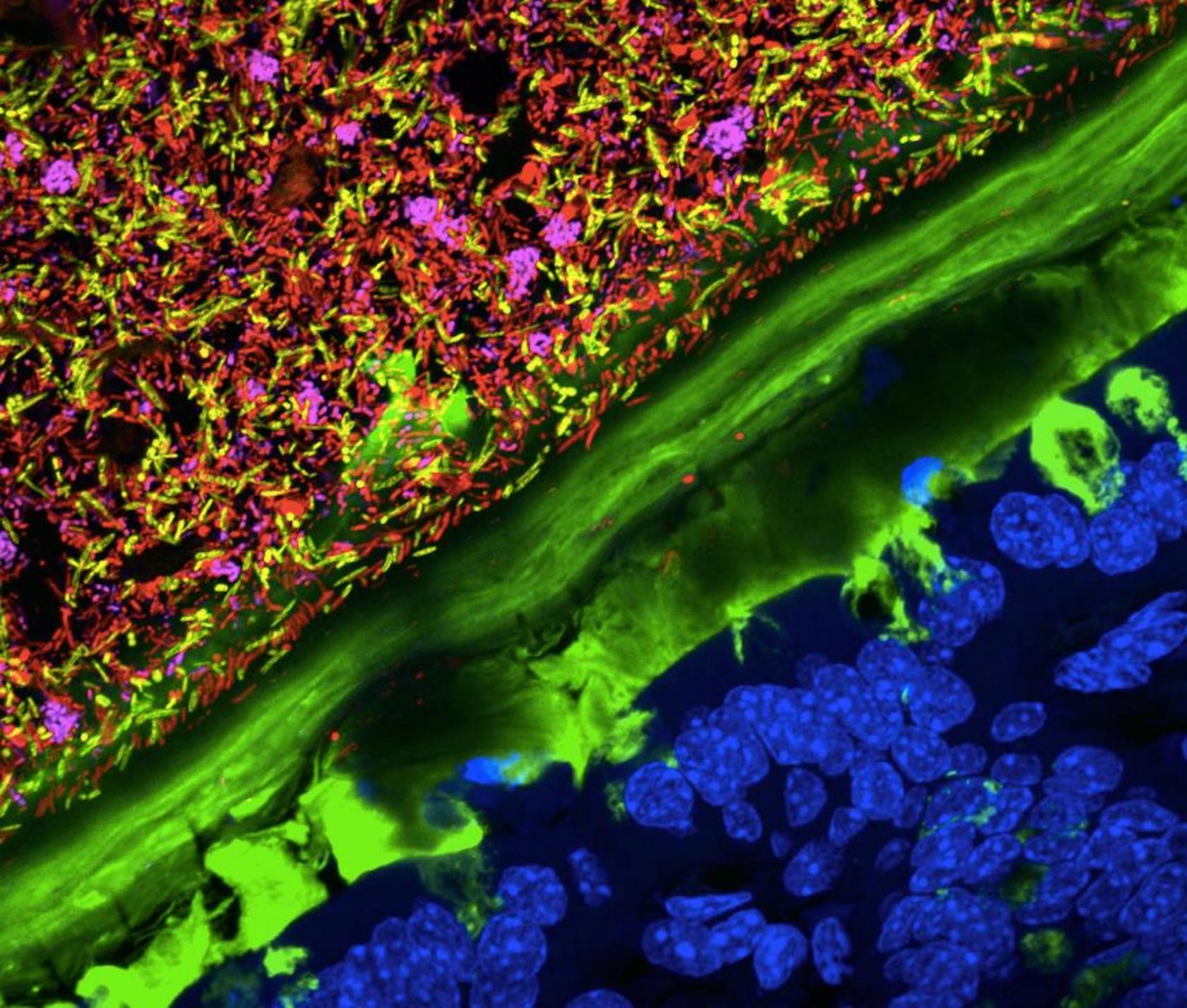
Predisposition

- low ojas
- poor diet and lifestyle
- excess sugar, alcohol
- stress
- environmental toxins

Stage I

dosha imbalance and/or weakened Agni, leading to production of Ama (toxins)



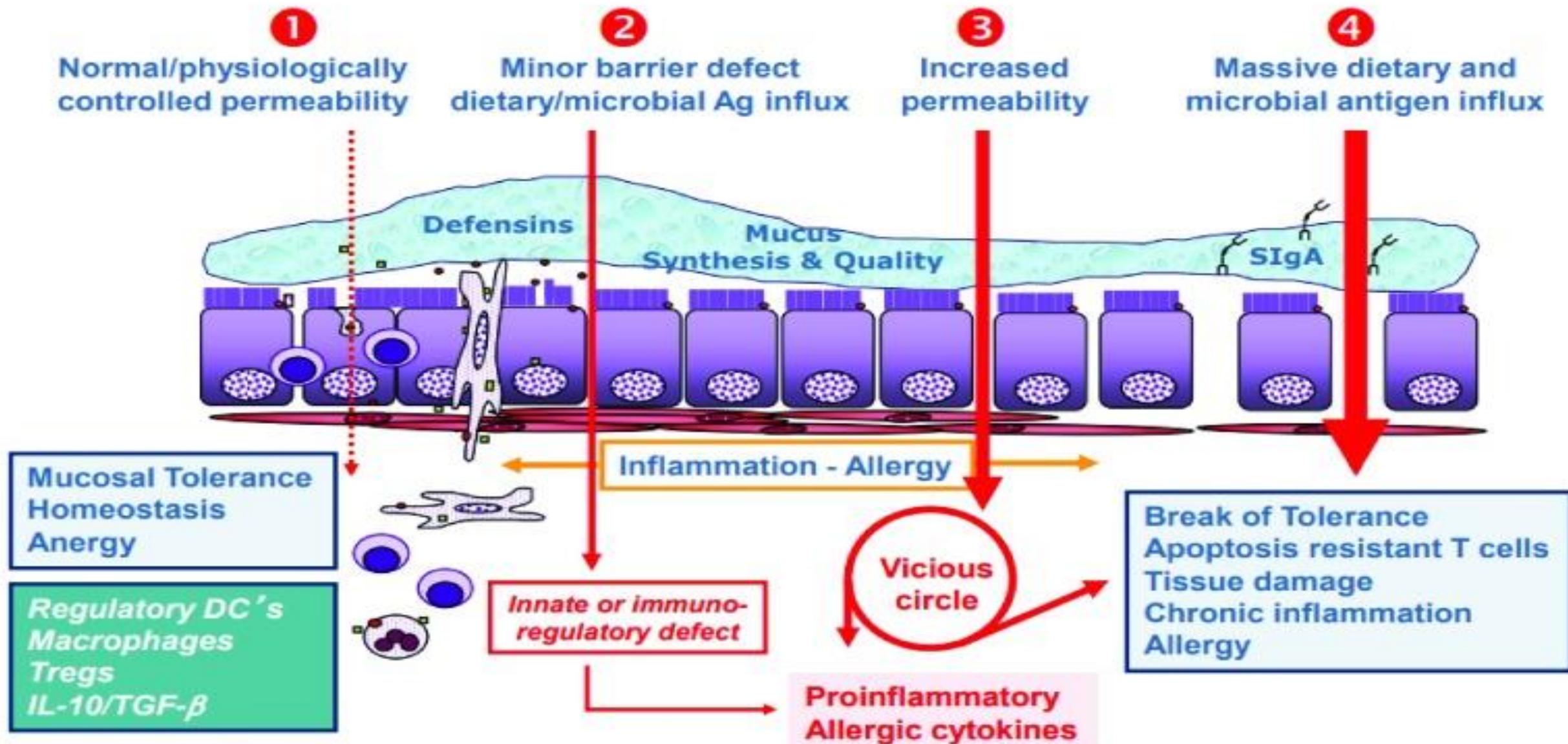


Tropini et al. Cell Host
Microbe. 2017;21(4):433–442.



Loss of Mucosal Immune Homeostasis

Chronic Inflammation-Allergy



INTEGRATIVE MEDICINE STRATEGIES FOR OPTIMAL IMMUNE FUNCTION

- Healthy diet and vitamins
- Spices
- Agni / gut health
- Herbs and supplements
- Sunlight and nature exposure
- Stress reduction techniques
- Exercise
- Sauna
- Nasya and oil-pulling
- Sleep/rest
- Positive Attitude
- Gratitude



TOP 10 IMMUNE BOOSTING FOODS

- Leafy greens
- Mushrooms
- Cold water fish
- Bone broth
- Beet greens
- Pumpkin seeds
- Oranges
- Apples
- Fermented foods
- Apple cider vinegar



LEAFY GREENS



ARUGULA, RADICCHIO & LOOSE-LEAF LETTUCE



plant flavonoids reduce NLRP3 inflammasome signaling



MUSHROOMS

Increase Roseburia, Bifidobacteria,
Lactobacillus, and Akkermansia

Activate innate immunity

Anti-inflammatory



COLD WATER FISH



Omega-3s
Selenium
Vitamin A
Vitamin D
(↓ NLRP3)



BONE BROTH



PUMPKIN SEEDS



zinc reduces viral replication and may prevent coronavirus entry into cells



ORANGES



vitamin C inhibits NLRP3 inflammasome activation

vitamin C shortens the frequency and severity of colds and the incidence of pneumonia

Hemila, H. Vitamin C Supplementation and Respiratory Infections: A Systematic Review. *Mil Med.* 2004;169(11):90.



BEET GREENS



- Rich source of trimethylglycine (TMG), which supports methylation and healthy liver function
- Anti-inflammatory nutrients – betalains, betanin, isobetanin, vulgaxanthin
- Betalains ↑ activity of glutathione-S-transferase – Phase 2 liver detox



APPLES

skin contains a compound called quercetin, which may help ↓ NLRP3 & regulate the immune system



Choe J-Y, et al. Quercetin and Ascorbic Acid Suppress Fructose-Induced NLRP3 Inflammasome Activation by Blocking Intracellular Shuttling of TXNIP in Human Macrophage Cell Lines. *Inflammation*. 2017;40(3):980



FERMENTED FOODS



APPLE CIDER VINEGAR



AYURVEDIC CONCEPTS – AMA AND AGNI

- All disease begins in the gut
- Agni imbalance is the root cause of all disease
- Problems with Agni predispose to creation of Ama
- Sama Agni, optimal metabolism and balanced digestion, can degenerate into one of the 3 imbalanced forms of Agni



TIPS TO IMPROVE AGNI

- First thing upon arising, drink 8 ounces of hot water with apple cider vinegar, lemon juice and honey
- After brushing, scrape the tongue with a tongue scraper
- Have hot meals, especially a warm breakfast incorporating some protein
- Chew your food thoroughly. Bring awareness to eating



TIPS TO IMPROVE AGNI

- When eating, it's important to sit down and be fully aware of the taste, smell and texture of the food
- Eat the largest meal of the day at lunch between 12 noon and 2 PM
- Drink only warm water between meals, not with meals
- Chew a piece of ginger dipped in lemon juice before meals
- Incorporate ACV and spices



SPICES

- The most nutrient-dense foods on the planet
- Rich in antioxidants
- Reduce inflammation
- Support digestion
- Help with metabolic and glycemic balance



GARLIC

- Garlic alone contains over 100 distinct phytochemicals
- Allicin and other active ingredients suppress inflammatory cytokines such as IL-6, TNF-alpha



HOW TO USE GARLIC

To maximize nutritional benefits prepare garlic the following way: Crush, mince or mash the garlic and then wait for 10 minutes.

Then you may either consume the garlic raw or sautee or fry the garlic and still get all its health benefits.

Do not cook immediately after crushing.



TURMERIC

- Antiviral effects
- Reduces key cytokines like IL-1B
- Inhibits NLRP3 inflammasome

To maximize nutritional benefits :

Combine with black pepper during cooking (increases absorption 2000%)



AJWAIN (CAROM SEED)

Benefits :

Anti-inflammatory

Respiratory support

Digestive tonic

Antimicrobial



Boskabady MH et al. *Carum copticum* L.: a herbal medicine with various pharmacological effects. *Biomed Res Int*. 2014;2014:569087. doi:10.1155/2014/569087



CINNAMON

- traditional use for antimicrobial properties – broad antibacterial and antifungal effects
- cinnamon inhibits the growth of pathogenic fungus *Candida albicans*
- the essential oil of cinnamon inhibited 5/6 harmful bacteria in one study



HERBS AND SUPPLEMENTS DISCLAIMER

- no human trials for COVID-19
- informational only, not recommendation to take
- take only under supervision of a licensed practitioner
- not a substitute for proven, conventional measures



AMLA (AMALAKI)

Indian gooseberry

Nutrient-dense

Rich source of vitamin C & phytochemicals

Significantly improved endothelial function, antioxidant status, systemic inflammation and lipid profile



Usharani P et al. Evaluation of the effects of a standardized aqueous extract of *Phyllanthus emblica* fruits: a randomised, double blind, placebo controlled clinical study. *BMC Complement Altern Med.* 2019;19(1):97



CHYAWANPRASH

Made from 50 medicinal herbs and extracts,
including Amla

Tridoshic ojas-building formula from *Caraka
Samhita*

Preparation involves preparing a decoction of
herbs, followed by extraction steps, mixture with
ghee and honey, and addition of spices



CHYAWANPRASH

- Rich in vitamin C, polyphenols and flavonoids, exhibits antioxidant activity, enhances the immune system, and fights infections
- In a 6-month-long randomized multicenter clinical study in children (5–12 years old) it was shown to improve immunity and energy levels

Sharma R et al. Chyawanprash: A Traditional Indian Bioactive Health Supplement. *Biomolecules*. 2019;9(5):161



ELDERBERRY

- Lab studies show that elderberry inhibits replication and viral attachment of human coronavirus NL63 (HCoV-NL63)
- May be most effective in the prevention or early stage of viral infections
- The Natural Standard Research Collaboration found that there is evidence to support the use of elderberry for influenza

Weng JR et al. Antiviral activity of Sambucus ethanol extract and related phenolic acid constituents against human coronavirus NL63. *Virus Res.* 2019;273:197767.



ELDERBERRY INFUSION

Ingredients

- 16 ounces of water
- 8 ounces elderberries
- 1/4 teaspoon cinnamon powder
- 1 teaspoon ground ginger or 2 inches fresh ginger
- 12 cloves
- 2 tablespoons of honey

1. In a saucepan on medium heat, add all ingredients (except honey) to water and simmer for 20 minutes
2. Allow to cool and filter
3. Add honey as desired and serve



HONEY

- In a study with 139 children, ½ tsp of honey beat out dextromethorphan (a cough suppressant) and diphenhydramine (an antihistamine) in easing nighttime cough in children and improving their sleep
- Another study involving 105 children found that buckwheat honey trumped dextromethorphan in suppressing nighttime coughs

M Shadkam et al. The Journal of Alternative and Complementary Medicine. Jul 2010.787-793.



ASHWAGANDHA

- Powerful adaptogenic herb
- Rasayana or rejuvenator, ojas-building
- Helps body adapt to stress - ↓ cortisol levels, ↓ stress and anxiety, and improves inflammation



ASHWAGANDHA

Very heating herb so traditionally taken with milk

One study found that consuming Ashwagandha with cows' milk led to:

- increase in the level of white blood cell activation, most pronounced in CD56+ Natural Killer cells
- a statistically significant increase in the number of CD4+ T helper cells

Use caution if you have hyperthyroidism

Singh N et al. An overview on ashwagandha: a Rasayana (rejuvenator) of Ayurveda. *Afr J Tradit Complement Altern Med*. 2011;8(5 Suppl):208–213.



RHODIOLA

- Two primary compounds may contribute to *Rhodiola rosea*'s possible effects – salidroside and rosavins
- Beneficial for lung health
- Reduced lung injury by inhibiting inflammation
- In COPD patients was shown to improve multiple lung parameters

Complementary usage of *Rhodiola crenulata* (L.) in COPD patients: the effects on cytokines and T cells, <https://doi.org/10.1002/ptr.5259>



TULSI (HOLY BASIL)

- revered as “The Queen of Herbs”
- has broad spectrum anti-bacterial, anti-viral and anti-fungal activity
- adaptogen – promotes wellbeing and resilience
- supports detox by increasing levels of antioxidants such as glutathione, superoxide dismutase and catalase



Cohen MM. Tulsi - *Ocimum sanctum*: A herb for all reasons. *J Ayurveda Integr Med*. 2014;5(4):251–259



TRIPHALA

- modulates digestive and immune system
- antibacterial, antifungal and antiviral properties
- lab studies show activity against Streptococcus & other pathogens



Belapurkar P, Goyal P, Tiwari-Barua P. Immunomodulatory effects of triphala and its individual constituents: a review. *Indian J Pharm Sci.* 2014;76(6):467–475.



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