IMAGINE
INNOVATE
INSPIRE
RESEARCH
WEEK
15 - 19 OCTOBER
2018

Evaluating Health Claims

How to decide if they are legitimate?

Gold Coast Skeptics

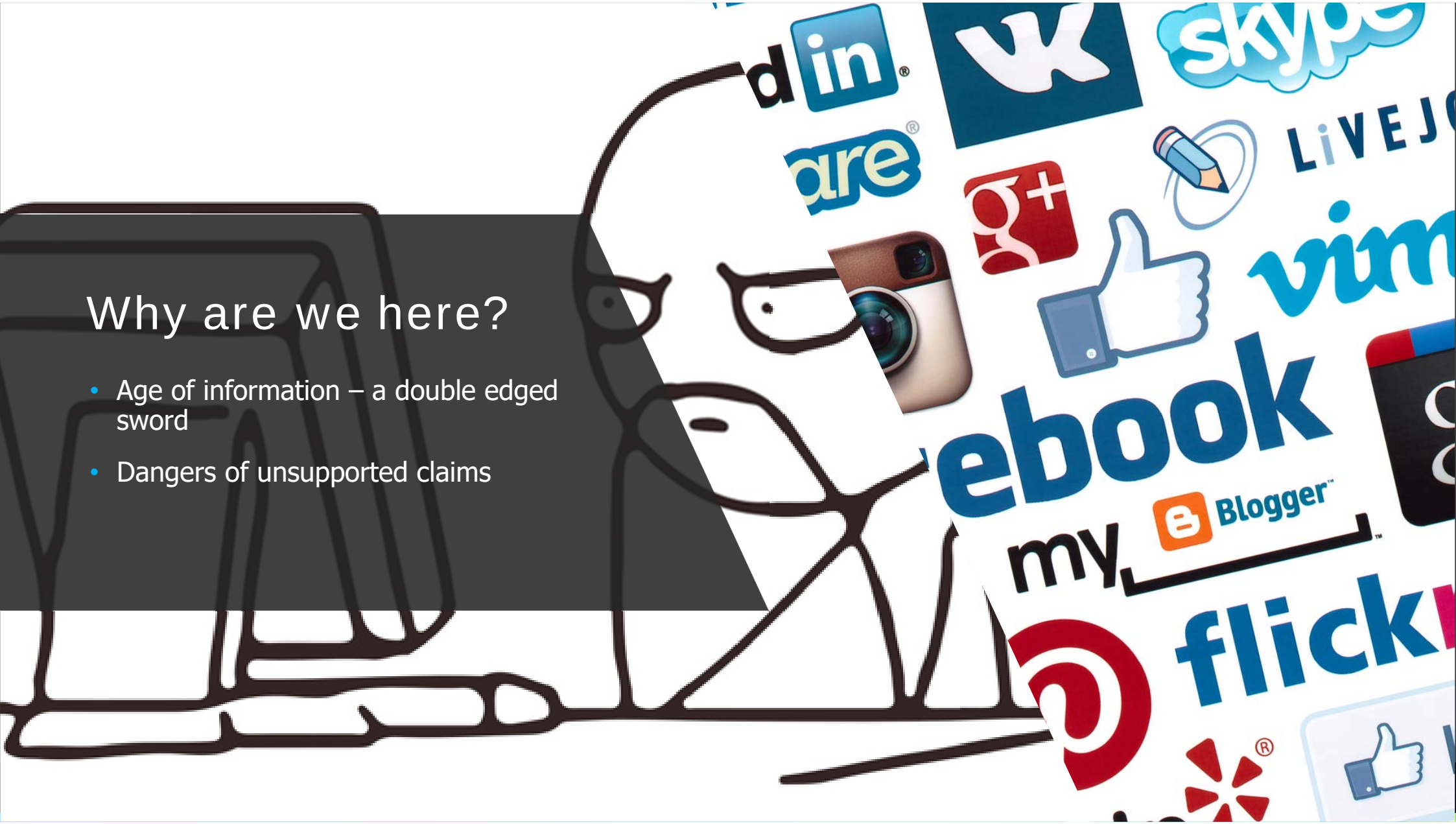
CREBP

Not Just Mum

IMAGINE INNOVATE INSPIRE

Why are we here?

- Age of information – a double edged sword
- Dangers of unsupported claims



Tonight's format

Some talking + some fun activities

1

Should you be raising some red flags and be skeptical of the information provided?

Dr Paulina Stehlik

Senior Research Fellow (CREBP); Gold Coast Skeptics President

2

Have you been told everything you need to know?

Associate Professor Rae Thomas

A/Prof (CREBP); Deputy Director Wiser Healthcare at Bond University

3

Where to find legitimate health information online

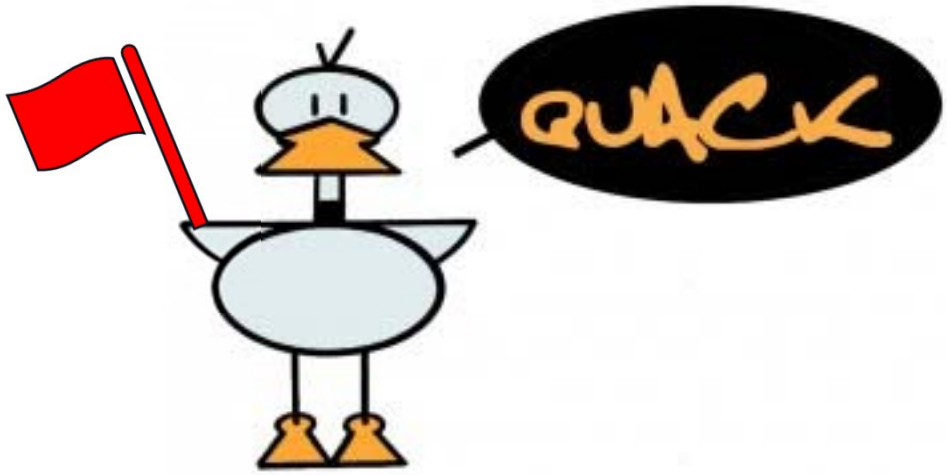
Dr Amanda McCullough

Research Fellow (CREBP), Teaching Fellow (Bond); Founder of Not Just Mum

Don’t be “quacked”

Spotting potentially bogus health claims

Presented by: Dr Paulina Stehlik



10 bogus health claim red flags

Ten ways to avoid being Quacked Stephen Barrett, **Seven warning signs of Bogus science** Robert L Park
✣ CREBP & The Australian Skeptics

- Uses a "false premise" as basis of claim
- Uses anecdotes and testimonies as evidence
- Uses famous endorsement (or similar) in place of evidence
- Suggests that claims is credible because it has endured for a long time
- Suggests that claims is credible because it is popular
- Uses scientific jargon to sound credible
- Claims that natural makes therapy superior and safe
- Uses the "you too" (tu quoque) fallacy
- Claims of miracle cure
- Use of paranoid accusation

Uses a “false premise” as basis of claim

What is a premise?

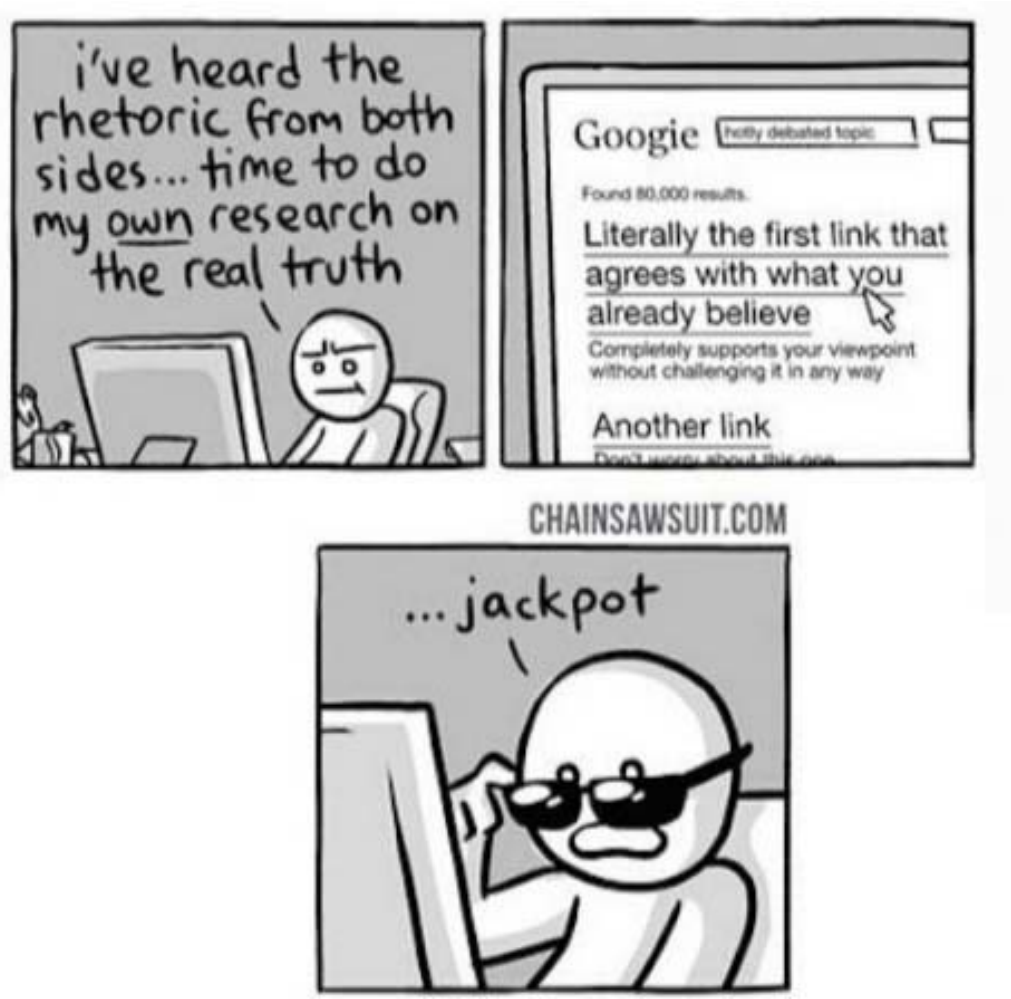
- Is the starting point of your argument; then you apply logic in order to come to a conclusion

Premise must be based on best available evidence

- Usually means the **body of evidence** – i.e.: when many experiments have been done with similar results

- One small poorly done study cannot prove or disprove a hypothesis or theory.

(Finding evidence: More on this from Amanda)



Uses a “false premise” as basis of claim

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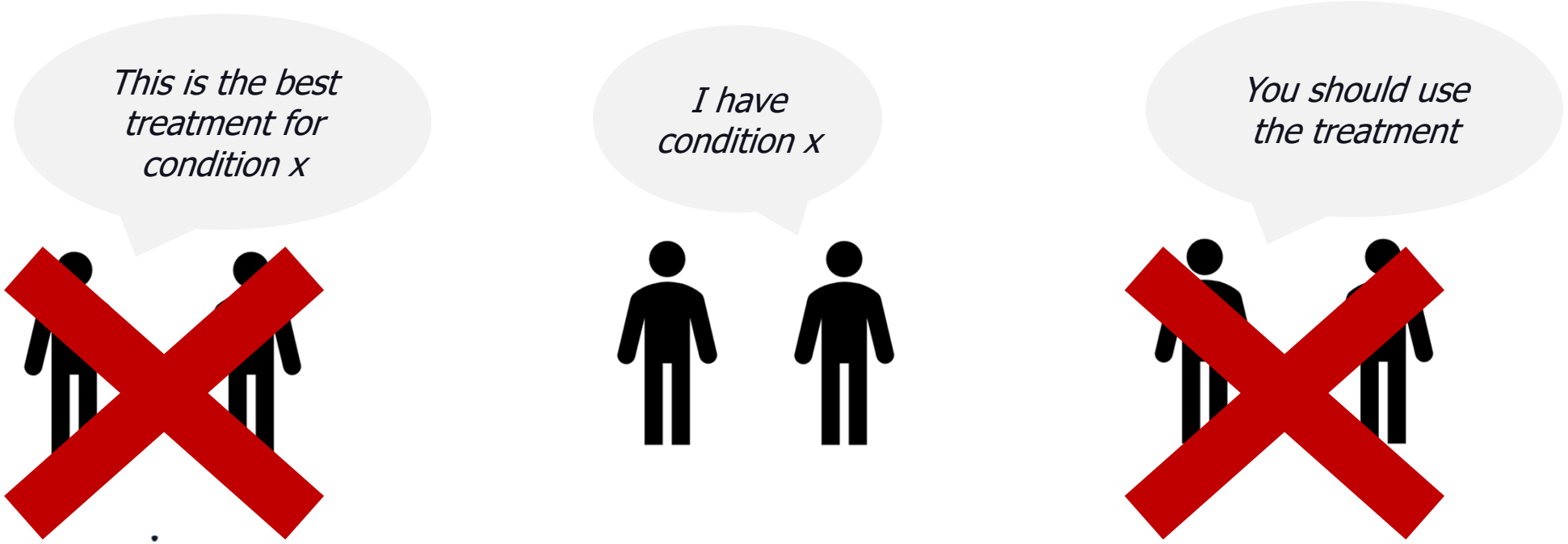


Uses a “false premise” as basis of claim

Cancers are actually the fungus C. albicans.

Fungi like acidic environments and can be killed in alkaline environments

Therefore, making your blood alkaline with sodium bicarbonate will prevent/ cure cancer

Uses a “false premise” as basis of claim

- ✗ Cancers are actually the fungus C. albicans.
- ✓ Fungi like acidic environments and can be killed in alkaline environments
- ✗ Therefore, making your blood alkaline with sodium bicarbonate will prevent/ cure cancer

Cancer is not a fungus: http://www.123hjemmeside.dk/cancer_is_not_a_fungus

Uses a “false premise” as basis of claim

- ✗ Cancers are actually the fungus C. albicans.
- ✓ Fungi like acidic environments and can be killed in alkaline environments
- ✗ Therefore, making your blood alkaline with sodium bicarbonate will prevent/ cure cancer

Usual pH (acid level) in body is ~7.4 - body is very good at keeping a tight range

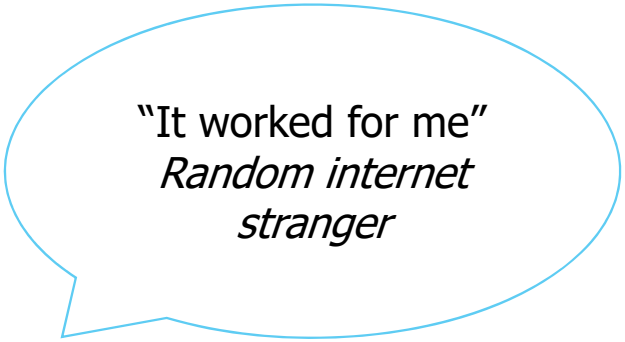
Acidosis if pH is ***lower*** than 7.35
Alkalosis if pH is **higher** than 7.45

Large deviation from this can lead to ***serious illness and death***

Cancer is not a fungus: http://www.123hjemmeside.dk/cancer_is_not_a_fungus

Uses anecdotes and testimonies as evidence

- Anecdotes are the **least** reliable form of evidence



- Assumes that because there is a temporal relationship between two events, that the first event caused the second event.

"I sneezed and then there was an earthquake; therefore, my sneeze caused the earthquake"

- Why do we think it worked?

Uses anecdotes and testimonies as evidence

"It worked for me"
Random internet stranger

- Why the therapy seem to have worked?
  - Disease has run it's natural course
  - Disease is cyclical
  - Original diagnosis/ prognosis may have been incorrect
  - Temporary mood improvement can be confused with cure – "feel good"
  - Psychological investment in cure

- A **randomised controlled trial** is the gold standard for evaluating effectiveness.

Why bogus therapies seem to work: http://www.quackwatch.org/01QuackeryRelatedTopics/altbelief.html

Uses celebrity endorsement (or similar) in place of evidence

Type of informal fallacy also known as an "argument from authority".

This is an argument based on an "expert" opinion, which assumes that the expert is somehow correct.

"I use this every day" – Famous athlete

"Dr X, a neurosurgeon with 35 years of medical experience, says that putting pineapples in your ears will help decrease the risk of Alzheimer's Disease"

Uses famous endorsement (or similar) in place of evidence

Suggests that claims is credible because it has endured for a long time or is popular

- Type of informal fallacy also known as an "argument from antiquity" or "argument from popularity".

Antiquity

"…has been used for thousands of years"

"*Uses ancient wisdom…"*

"Traditionally used in…"

Popularity

"Thousands of people around the world are raving about…"

"*Many people use…"*

"Best seller…"

- It states that just because a belief has been around for a long time or is popular, it somehow makes it true.

Uses scientific jargon to sound credible

Offer to treat concepts that are **not in line with modern medical science** or impossible to define and measure, OR **incorrectly** use scientific terminology that renders the term meaningless

Detox your body

Uses quantum healing…

Uses biofeedback to enable…

Realigns you with nature

Balance your energy

Supports a healthy immune system..

Claims that natural makes therapy superior and safe

Make claims based on assumption that just because something is "natural" that it is somehow safe, good, or better than something that is "unnatural".

"Herbs are natural, so they must be safe"

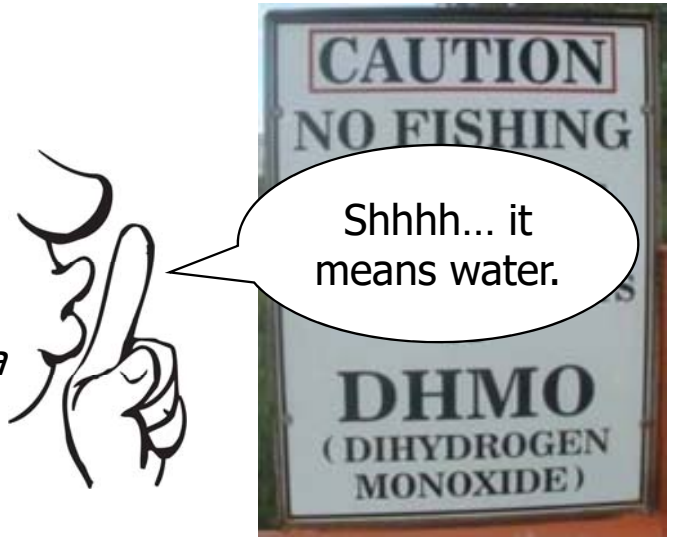
"The way nature intended it"

"All natural ingredients"

"Sourced from nature"

"Organic"

"Chemicals are bad for you because they are unna



Claims that natural makes therapy superior and safe

Black Cohosh
Traditional North American Indian medicine used for menopausal symptoms

2005: 47 cases of liver reactions worldwide, including 9 Australian cases, 2 of which received liver transplants

Now must have the warning "Black cohosh may harm the liver in some individuals. Use under the supervision of a healthcare professional."

https://www.choice.com.au/food-and-drink/food-warnings-and-safety/food-safety/articles/cyanide-cancer-cure-banned

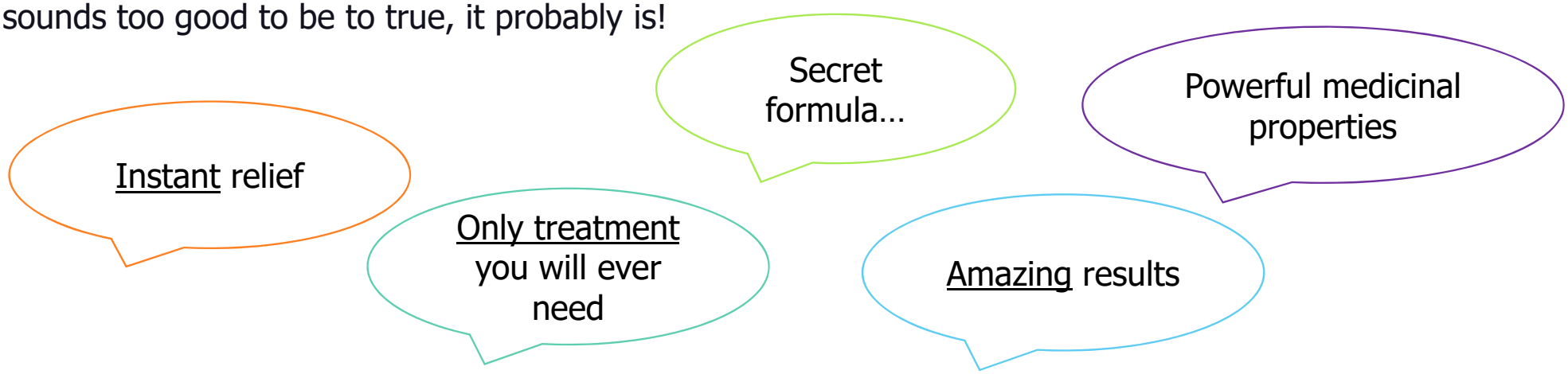
Uses the “you too” (tu quoque) fallacy

Basically claims that two wrongs make a right

“Many ‘conventional’ treatments are not supported by evidence... so use our treatment”

Claims of miracle cure

- One treatment to cure all disease states, even if they have totally differing pathophysiology.
- If it sounds too good to be to true, it probably is!



Use of paranoid accusations

- Claim the medical profession/drug companies/government are conspiring to suppress whatever method they espouse

Argument from Authority

Appeal to Nature

Possibility of evidence!

…however when I asked, I was told “no one would publish” their trial…

Claims?

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Let's play Bogus Bingo!

- Use the **Bogus Bingo** game in your pack to find "bogus" health claims
- Work in **pairs.**
- First to tick off **THREE** squares receives a prize!

Claims! ☺

Are there any red flags?

Has any evidence been presented?

Argument from antiquity

Argument from Authority

Breaks laws of nature

False premise/ analogy

Argument from popularity

Are you convinced?

WHAT IS BIOGLAN MELATONIN FOR?

Bioglan Melatonin is traditionally used in homeopathic medicine to help:
- Relieve symptoms of mild nervous tension, stress and mild anxiety
- Relieve mild temporary insomnia (sleeplessness) when taken before bedtime
- Provide stamina and endurance when taken in the morning.

WHO IS BIOGLAN MELATONIN FOR?

Bioglan Melatonin may be of benefit to:
- Those experiencing mild temporary insomnia and having trouble sleeping.
- People that travel a lot.
- Those that are prone to developing symptoms of jet lag after a long flight.
- People undergoing a challenging or busy period in life.

WHEN SHOULD I TAKE BIOGLAN MELATONIN?

Take daily for best results. If symptoms persist please see your healthcare professional.

WHY SHOULD I TAKE BIOGLAN MELATONIN?

Bioglan Melatonin is traditionally used in homeopathic medicine to help:

- Helps regulate normal healthy sleep
- May help with symptoms of mild anxiety
- May alleviate symptoms of jet lag

WHAT IS HOMEOPATHY?

Homeopathy is a system of alternative medicine that was developed by a German physician, Samuel Hahnemann, in the late 18th century. He learned of Hippocrates' concept that '*like cures like*', that is, a substance that causes symptoms in a healthy person – a 'similar' – can cure those symptoms in a sick person. He believed that the similar stimulated the body to remove the cause of the illness. Remedies were chosen to 'match' the symptoms eg: if the person has nausea, a remedy is chosen which can produce nausea in a well person.

13TH ANNUAL CHOICE

SHONKYS

4 OCTOBER 2018

CHOICE's annual awards name and shame the shonkiest products and companies taking advantage of Australian consumers.

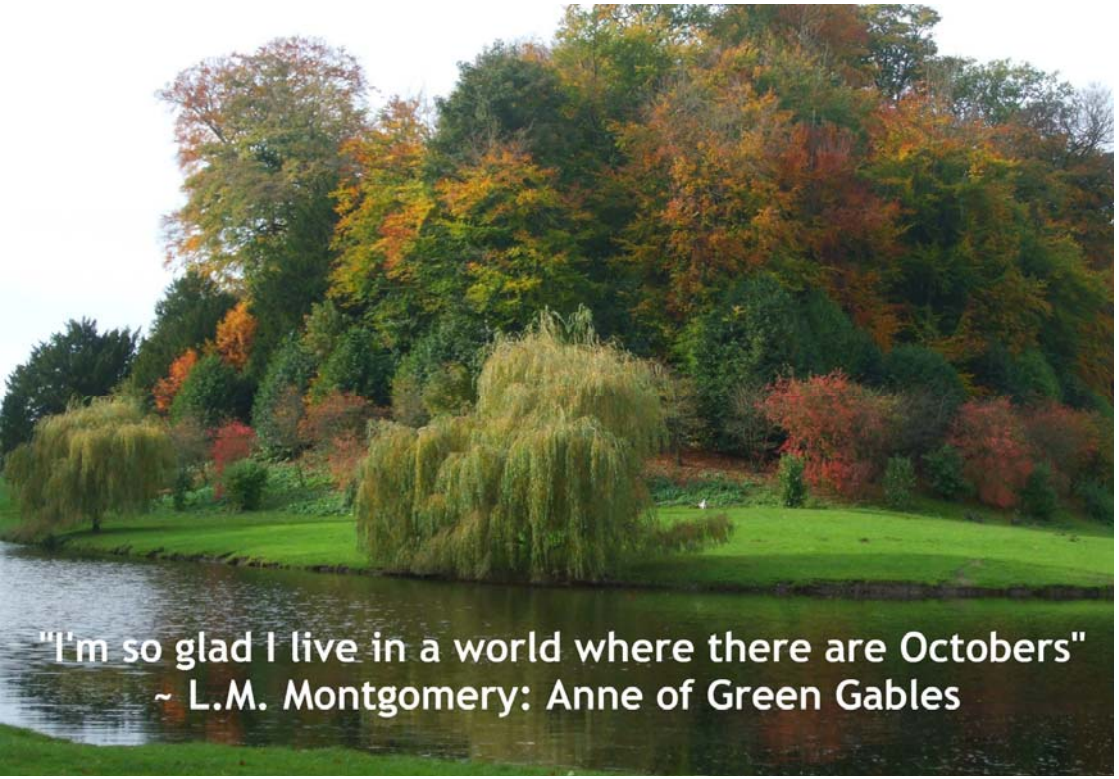
SHONKY: (adjective) Australian slang meaning "unreliable, unsound, dishonest, poor or of dubious quality; shoddy"

Skeptical

Calmly, patiently listening to what others have to say and recognizing when they’re feeding you a line of s***…

Health news reporting in the media

Have they told me everything I need to know?


"I'm so glad I live in a world where there are Octobers"
~ L.M. Montgomery: Anne of Green Gables

October.....

But it is really.....

WORLD
MENTAL
HEALTH
GLOBALSTEMCEL
World
Cerebral Palsy
DAY
World
Sight Day
sight sight sight
base, 2014
ness Week 4-10 October
limbs4life.org.au
limbs4life

FOOT HEALTH M
1 day to

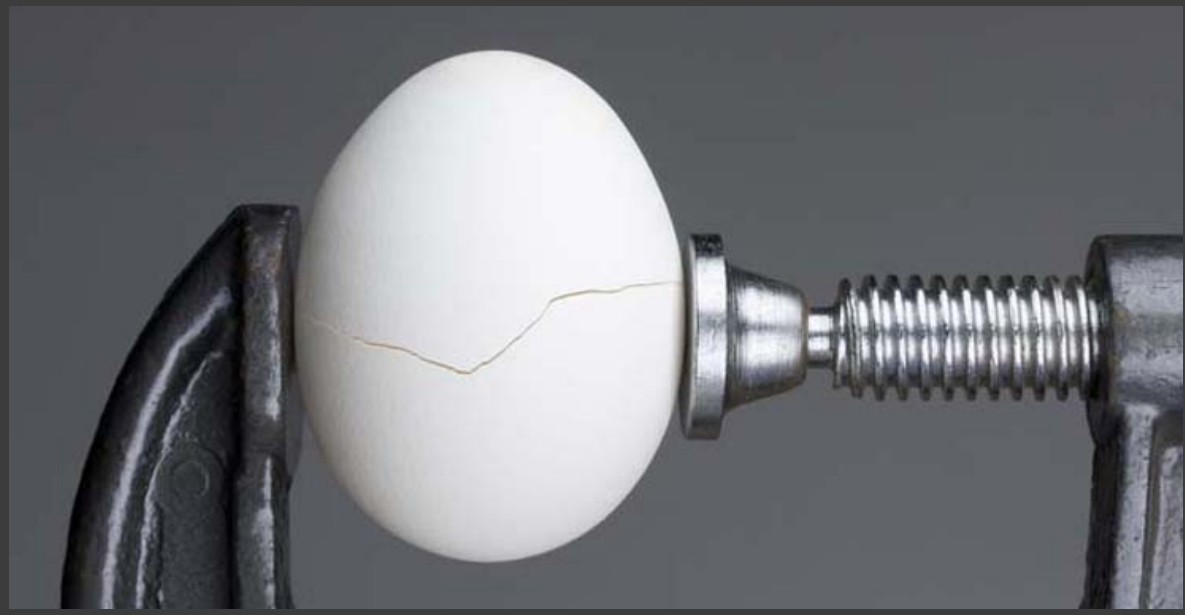
blue knot
foundation

empowering recovery
from childhood trauma

There’s too much information

There’s too much hype

We want to help you cut through this



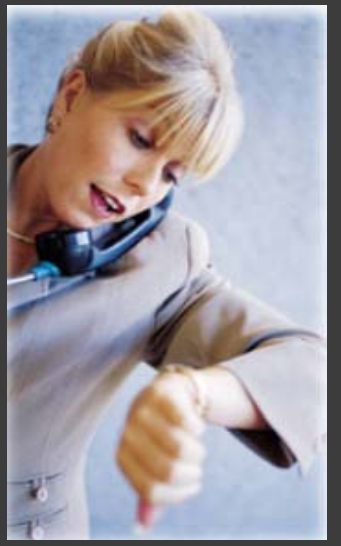
We want to help you make good decisions

4 Standard Scripts

- It's common
- Undiagnosed
- Serious
- Actionable

HSDD - Hypoactive Sexual Desire Disorder

- an affliction which affects millions of women around the globe
- A huge number of women suffer from low sexual desire, so it can be quite difficult to distinguish between a temporary period of low sexual desire and actual hypoactive sexual desire disorder.
- It's important to remember that you can successfully overcome this serious and damaging affliction.
- The good news is that HSDD does not mean the end of your sexual desire or libido. There are a variety of products available which have proven very effective in restoring female sex drive, improving libido, and increasing sexual satisfaction and pleasure.



http://www.hsddonline.com/index.html

Media Rating Tool

- ✓Novelty
- ✓Availability
- ✓Options
- ✓Disease mongering
- ✓Evidence
- ✓Benefits
- ✓Harms
- ✓Costs
- ✓Sources of information
- ✓Headline

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Novelty

- The article clearly states the intervention/study is genuinely new
- OR
- an old intervention with a new use
- OR
- there is new research about the intervention.
- The article can also alert the reader that this ‘new’ intervention is not new

Options

- The article mentions appropriate alternative interventions and how they compare (better, worse, equal)

Evidence

- The article talks appropriately about the evidence supporting the intervention eg ‘Results from clinical trials published in XXXXX show…”

Benefits

- The article presents the benefits or risks of the intervention in numerical form (eg 20% of patients benefited) and describes them in a way you can easily understand.

Harms

- The article mentions possible harms or side effects (or the lack of these) associated with this intervention. Financial harms also count.

Let’s rate one
together

New blood test
detects early stage
pancreatic cancer.

Novelty

- The article clearly states the intervention/study is genuinely new
- OR
- an old intervention with a new use
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By yourself

Fish oil pills during pregnancy might mean stronger, healthier kids.

Media Rating Tool

- ✓Novelty
- ✓Availability
- ✓Options
- ✓Disease mongering
- ✓Evidence
- ✓Benefits
- ✓Harms
- ✓Costs
- ✓Sources of information
- ✓Headline

What's the matter with a bit of hype??

Too much noise in a crowded health space

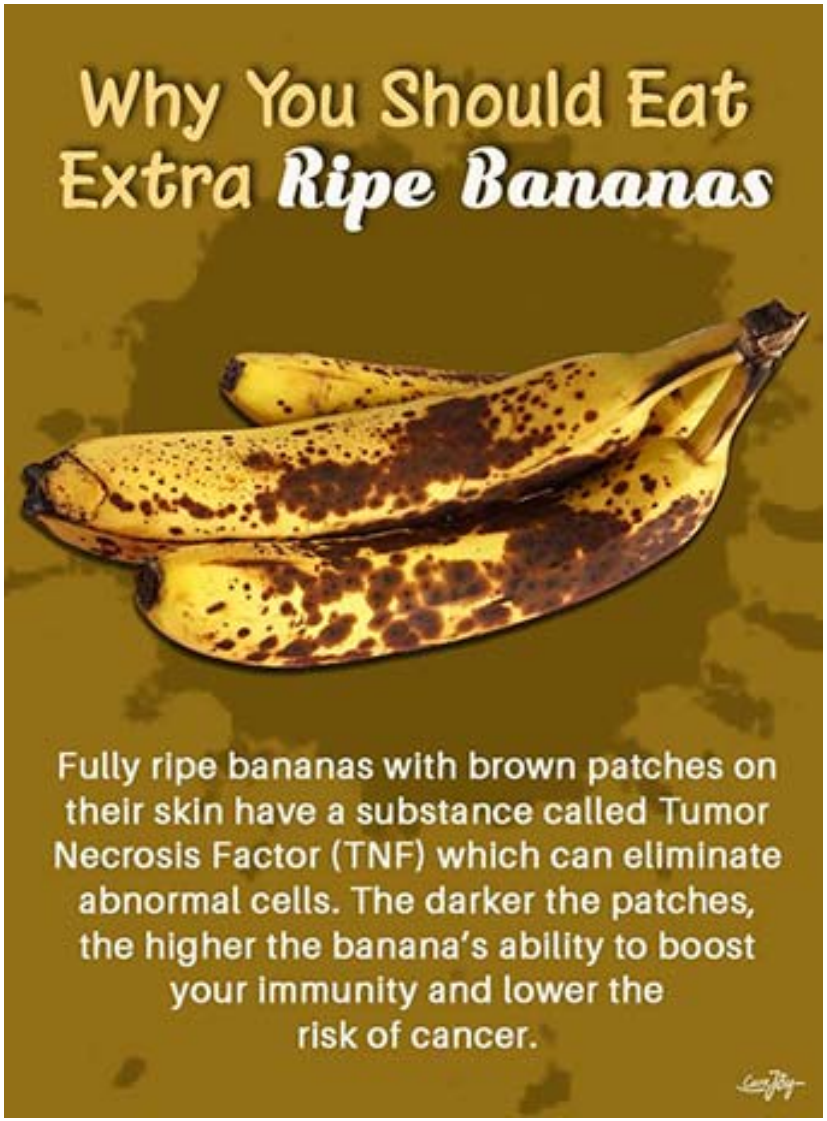
Waste in precious research dollars

Takes focus away from effective support and interventions

The next time you're called upon to "share if you care" —

please, instead, share with care.

(Tanya Ha)



Presented by:
Dr Amanda McCullough

Finding legitimate health information online

After 20 minutes, you will know...

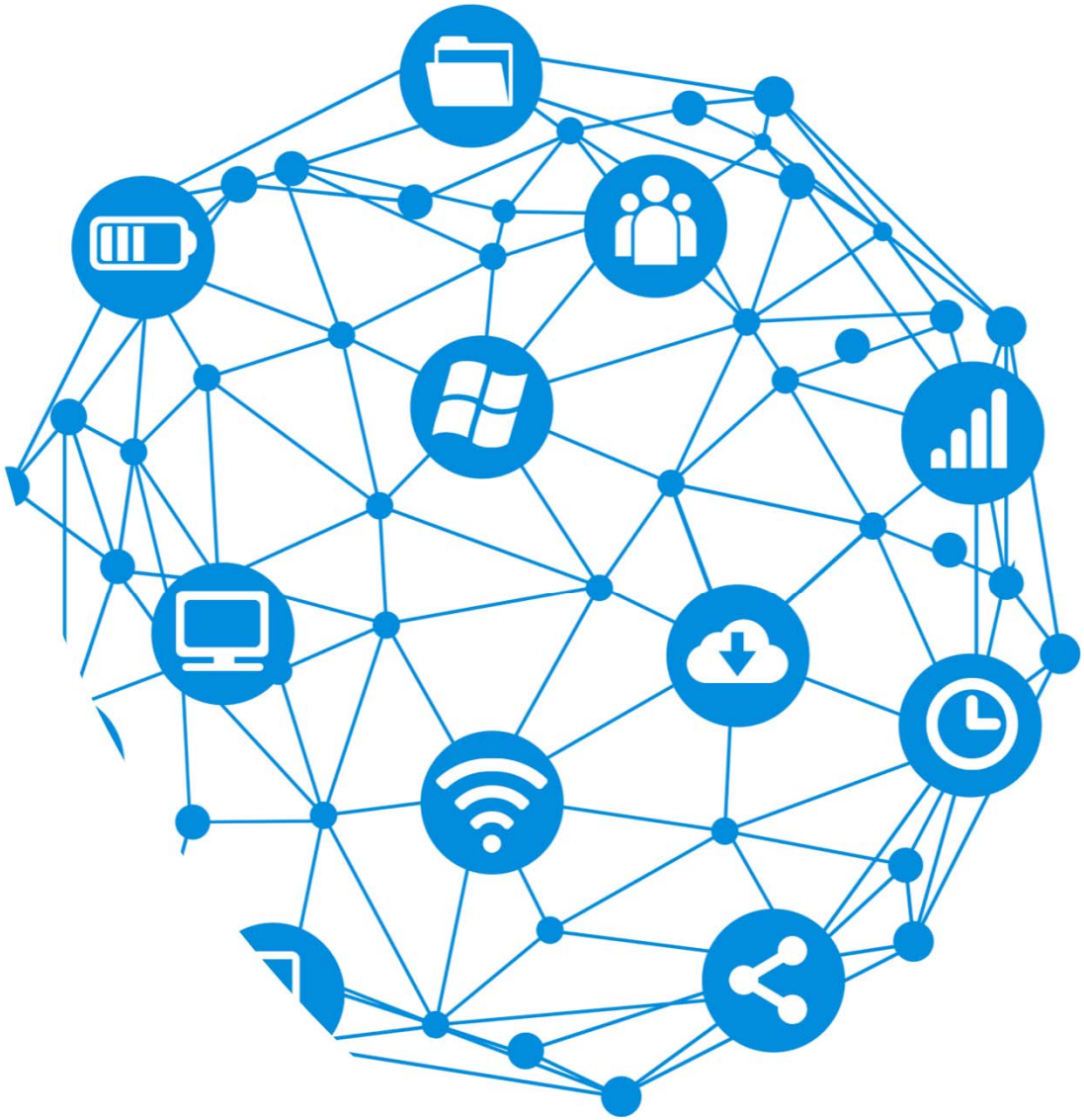
(VERY BRIEFLY) HOW TO SEARCH FOR RELIABLE INFORMATION ON GOOGLE

HOW TO IDENTIFY RELIABLE HEALTH INFORMATION ONLINE

5 QUESTIONS TO ASK YOUR HEALTH PROFESSIONAL TO GET BETTER INFORMATION

Why important?

- 87% of Australian population accessed internet in 2016-2017 (ABS 2018)
- 42% use the internet to find out about a condition (Hogue 2012)
- 33% use the internet to find out about a treatment (Hogue 2012)



Searching for reliable information

We've all been there...

Snot everywhere. Coughing non-stop. Unable to sleep. Feeling very sorry for ourselves. Complaining to anyone who will listen.

What might you google?

1. Cough unable to sleep
2. How long does a cough last
3. Cough medicine

Search: cough medicine

Benadryl®

CHEMIST WAREHOUSE

THE CONVERSATION

healthdirect

Cough Syrup & Medicine | BENADRYL® Australia
https://www.benadryl.com.au/
If you're suffering from a dry tickly cough, choose one of BENADRYL® Australia's products. We have a range of treatments available to relieve your cough. NEW BENADRYL® Children's Cough 2 years + Liquid to soothe and relieve coughs and chest congestion.

Shop Coughs Online in Australia | Chemist Warehouse
https://www.chemistwarehouse.com.au/shop-online/1094/coughs
Coughs. Shop Cough Medicine & Treatments at Chemist Warehouse, including cough syrup, lozenges, sore throat gargle, nasal spray & more.
Duro-Tuss · Robitussin · Benadryl · Prospan

Health Check: do cough medicines work? - The Conversation
theconversation.com/health-check-do-cough-medicines-work-62425
Aug 8, 2016 - Because cough suppressants such as dextromethorphan, pholcodine and codeine are derived from a group of medicines known as opioids, they can cause drowsiness or constipation. Cough mixtures marketed for a chesty cough often contain expectorants and/or mucolytics.

Dry Tickly Cough Medicine (Pharmacist) | healthdirect
https://www.healthdirect.gov.au/medicines/.../dry-tickly-cough-medicine-pharmacist
On this page about Dry Tickly Cough Medicine (Pharmacist) you will find information relating to side effects, age restrictions, food interactions, whether the ...

Images for cough medicine

More images for cough medicine

Report images

Search: cough medicine evidence

WebMD

Cochrane

BMJ

PubMed

Cough Medicine: Should You or Shouldn't You? - WebMD
https://www.webmd.com › Cold, Flu, & Cough › Feature Stories
Mar 30, 2015 - This includes suppressants like dextromethorphan, which block your cough reflex, and expectorants like guaifenesin, which are supposed to loosen up mucus in the airways. One survey of cough medicine studies from the last few decades found nothing to show that they help with coughs caused by viruses.

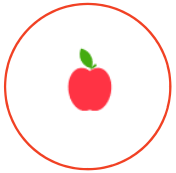
Over-the-counter (OTC) medications for acute cough in children and ...
https://www.cochrane.org/.../ARI_over-the-counter-otc-medications-for-acute-cough-i...
Nov 24, 2014 - Background: Acute cough due to upper respiratory tract infection (URTI) is a common symptom. Non-prescription, over-the-counter (OTC) medicines are frequently recommended as a first-line treatment, but there is little evidence as to whether these drugs are effective.

There is no good evidence for the effectiveness of commonly used ...
https://ebm.bmj.com/content/20/3/98
by A De Sutter - 2015 - Cited by 1 - Related articles
Acute cough is common and the demand for (and sale of) over-the-counter (OTC) cough medication is high, even for young children where serious side effects have been described. Keeping the evidence up-to-date is very important.

What is the evidence for the safety and efficacy of over-the-counter ...
https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2528730/
by G Dolansky - 2008 - Cited by 16 - Related articles
Over-the-counter (OTC) cough and cold medications have been used by your patients for many years, and now, in light of the recent Food and Drug ...

Websites to start

The Cochrane Library
https://www.cochrane.org/



Patient https://patient.info/

National Prescribing Service (NPS) MedicineWise
https://www.nps.org.au/

Choosing Wisely Australia Consumer information
http://www.choosingwisely.org.au/home#consumers

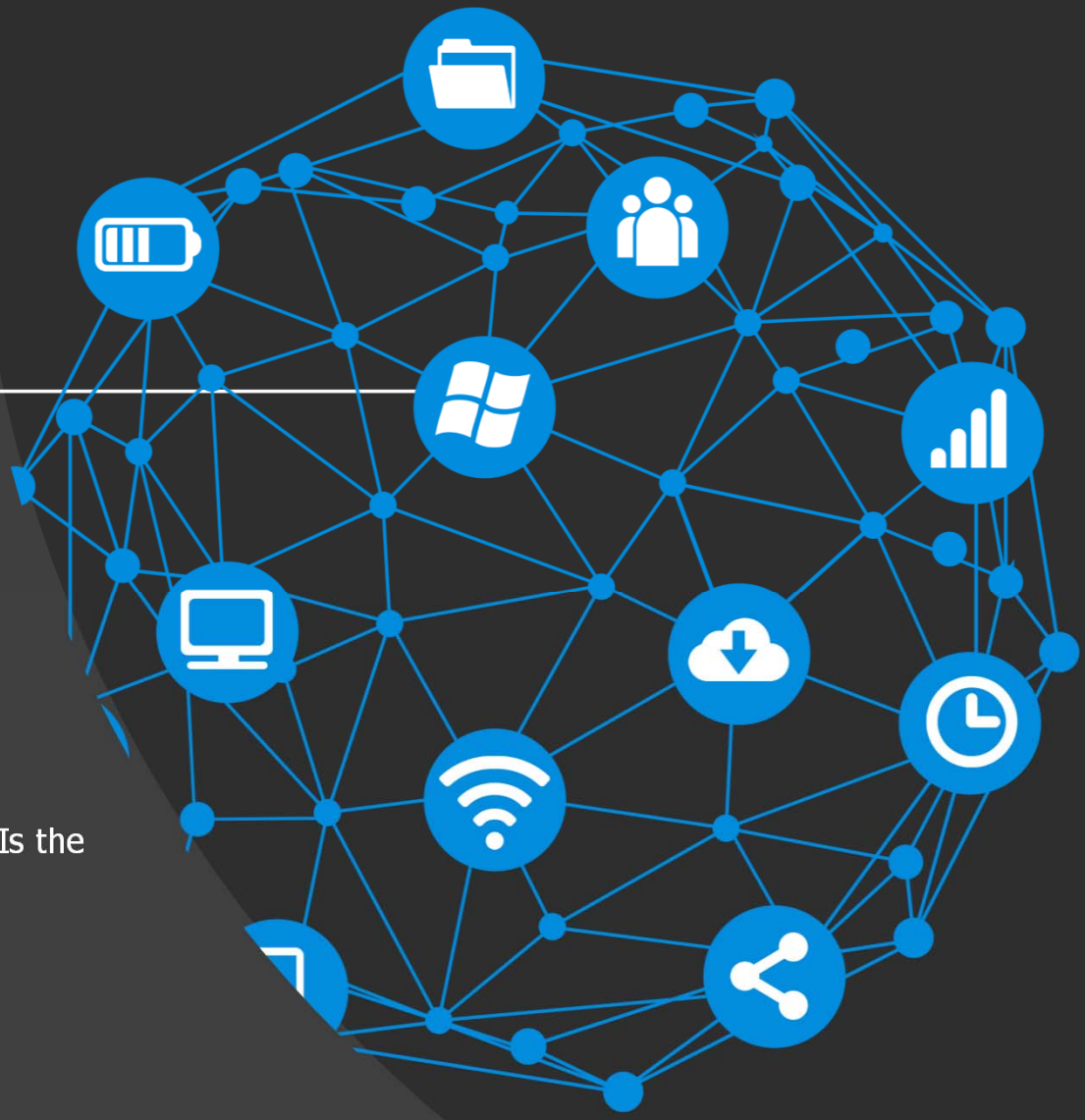
Health on the Net provides tools to help you find reliable websites and information
https://www.hon.ch/en/tools.html

Identifying reliable information

Questions to ask

https://nccih.nih.gov/health/webresources

- Who runs and pays for the website?
- What's the source of the information?
- How do you know if the information is accurate?
- Is the information reviewed by experts?
- How current is the information?
- What's the site's policy about linking to other sites?
- How does the site collect and handle personal information? Is the site secure?
- Can you communicate with the owner of the website?
- Is it safe to link to Twitter or Facebook through a website?



Let’s look at an example…

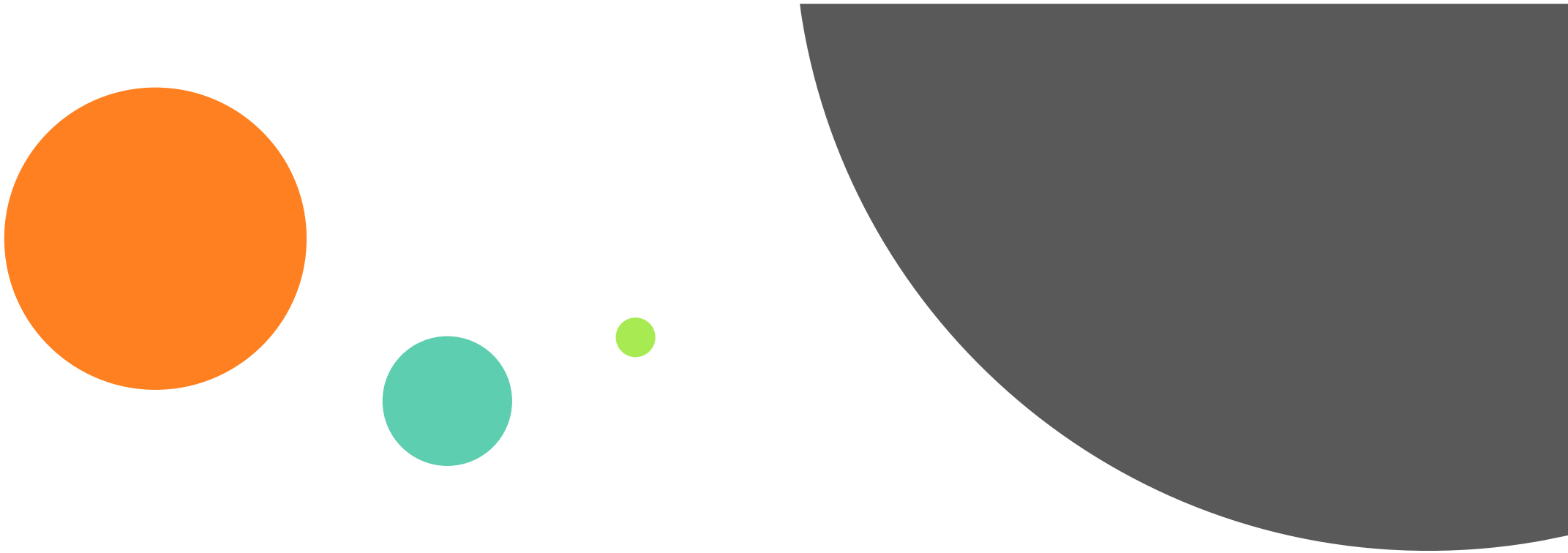
QuickTime Player File Edit View Window Help
25% Mon 10:28 am Amanda McCullough
Screen Shot 2018-10....14.01 pm
Screen Shot 2018-10....4.20 pm
Screen Shot 2018-10....4.26 pm
Screen Shot 2018-10....47.41 am
Screen Shot 2018-10....4.04 am
Screen Shot 2018-10....4.28 am
Google Chrome

5 questions to ask your health professional

5 questions to ask any health professional

1) Do I really need this test, treatment or procedure?
2) What are the risks?
3) Are there simpler, safer options?
4) What happens if I don't do anything?
5) What are the costs?

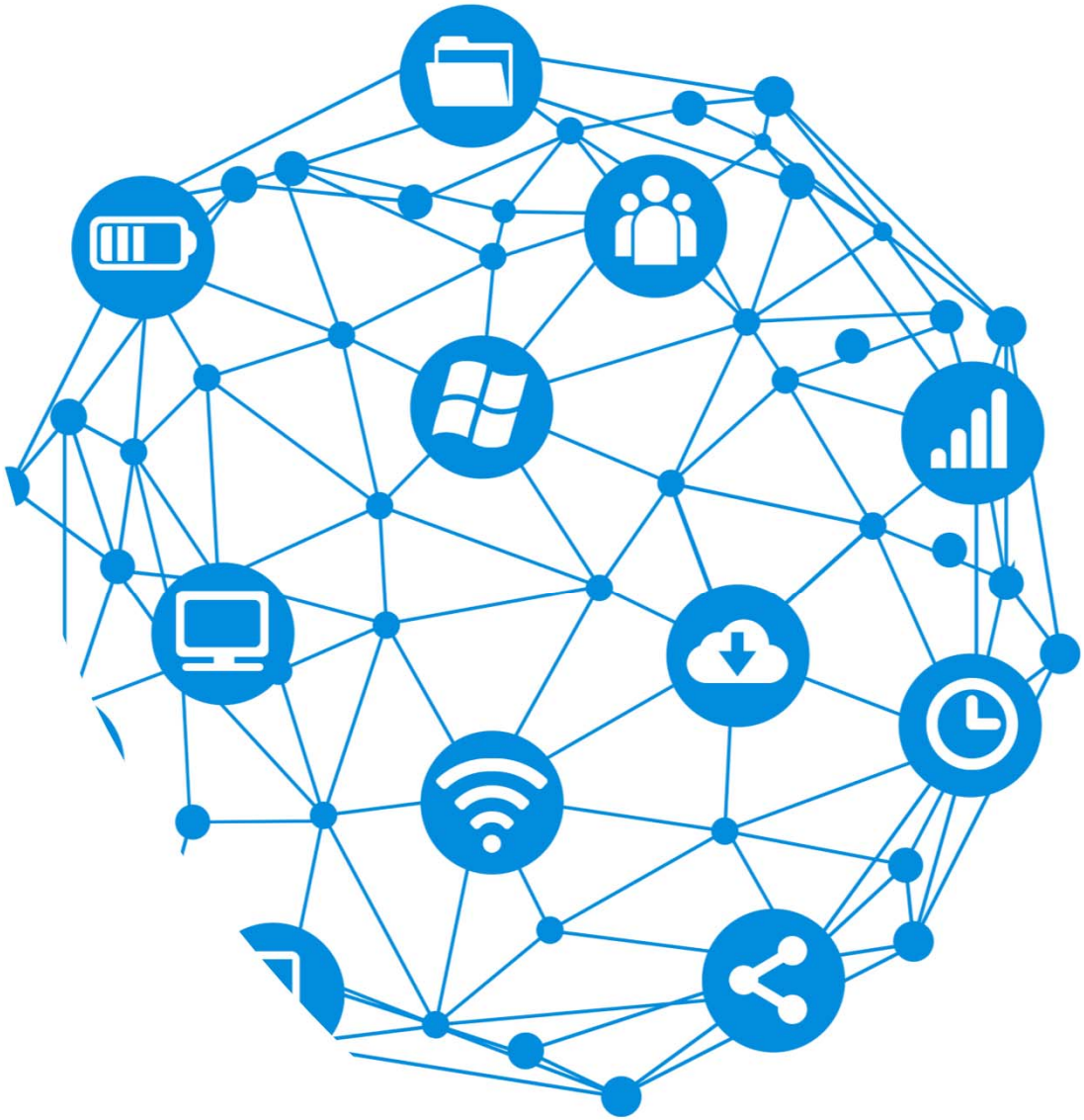
http://www.choosingwisely.org.au/resources/consumers/5-questions-to-ask-your-doctor



Let’s give it a try...

In pairs...

1. Pick a topic you care about, or choose one we have talked about
2. Google it (1) without 'evidence' (2) with 'evidence'
3. Choose 1 to 2 websites and review the 9 questions about how to discern if information is reliable
4. Share what you have found with your table



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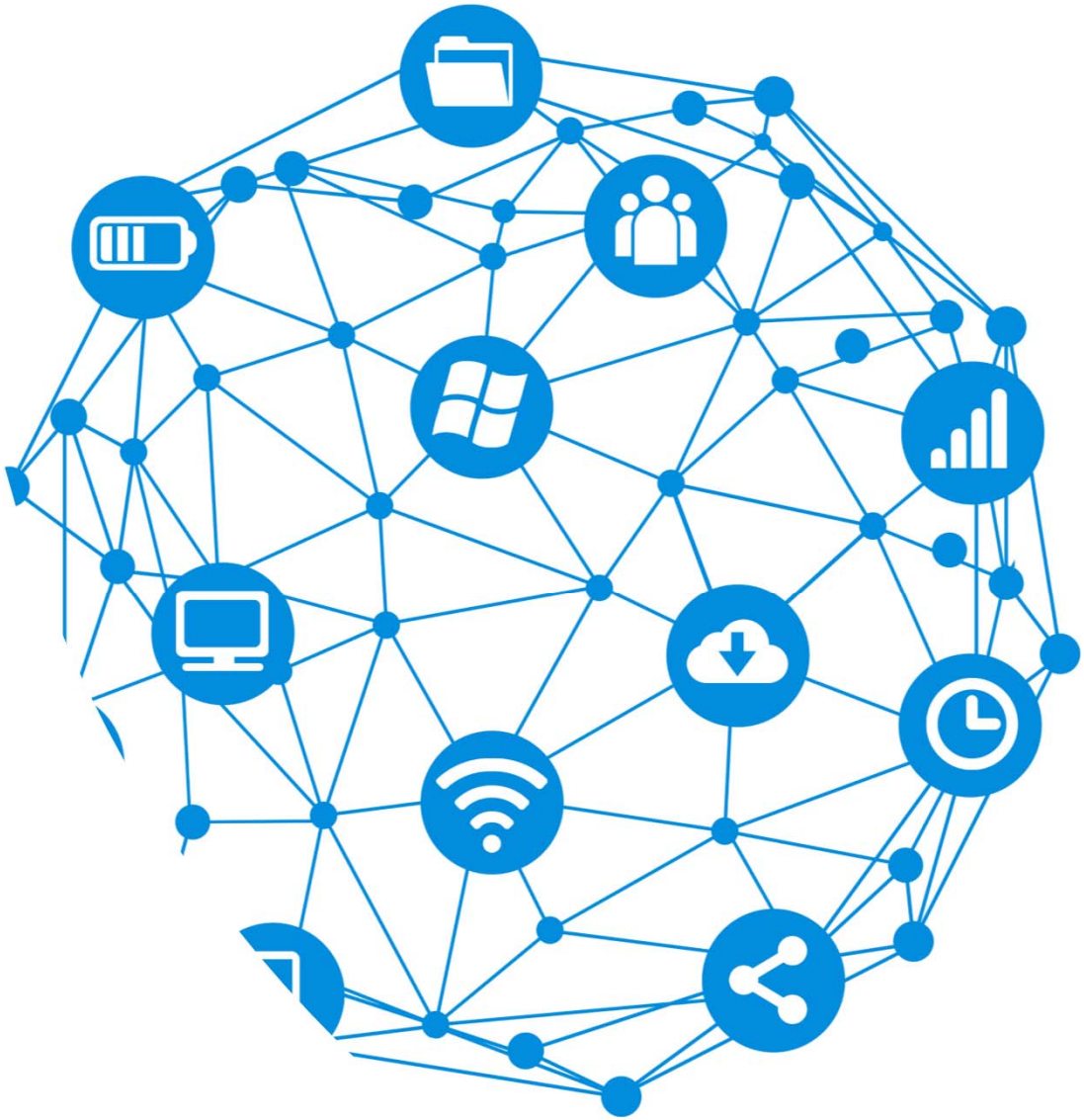

https://nccih.nih.gov/health/webresources

Thank you!

Questions?

FAKE HEALTH NEWS GENERATOR

YOUR EYE COLOUR		FIRST LETTER OF FIRST NAME		BIRTH MONTH		FIRST LETTER OF LAST NAME	
LIGHT BROWN	Putting	A	raw onions	JAN.	in your bed	A	removes toxins.
		B	alkaline water			B	cures cancer.
		C	tin foil	FEB.	in your hair	C	helps you lose weight.
DARK BROWN	Rubbing	D	essential oils			D	reduces allergy symptoms.
		E	amethyst	MAR.	under your doormat	E	blocks EMF radiation.
		F	avocado			F	cures acne.
		G	coconut oil	APR.	on your face	G	makes you smarter.
BLUE	Sleeping with	H	urine			H	wards off negative energy.
		I	epsom salt	MAY.	on your third eye	I	fixes joint pain.
		J	turmeric			J	relieves constipation.
		K	healing crystals	JUN.	around your neck	K	boosts your serotonin.
GREEN	Sprinkling	L	raw eggs			L	protects from bee stings.
		M	ginger	JUL.	in your handbag	M	fixes back pain.
		N	quantum energy			N	cures migraines.
		O	organic walnuts	AUG.	on your palm	O	realigns your chakras.
OTHER	Visualising	P	kombucha			P	will help you find love.
		Q	hemp	SEP.	in your sock	Q	cleanses your liver.
		R	the frequency of love			R	cures sinus pain.
		S	garlic	OCT.	up your nose	S	rebalances your hormones.
		T	detox pads (30% off!)			T	unclogs arteries.
		U	broccoli juice	NOV.	in your ear	U	prevents heart disease.
		V	moonlight			V	fights muscle cramps.
		W	activated charcoal	DEC.	in your underwear	W	reduces air contaminants.
		X	brain pills			X	helps others pronounce your name.
		Y	inspirational quotes			Y	helps you sleep.
		Z	a mandala			Z	reveals how many past lives you've had.