



Communicating asbestos facts and figures to the public



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Introduction

Who this guide is for?

This guide is for anyone who needs to communicate about asbestos risk with the public. It should be read in conjunction with the Guidelines for communicating about asbestos risk to the public.

What is this guide about?

This guide includes model language that can be used to communicate key asbestos facts and figures. Where options exist for what to say, you can choose your preferred statement(s), depending on the circumstances (e.g. raising general awareness or providing advice on what to do). These statements are based on established scientific facts; asbestos safety research; communications and message testing; and legally accepted authoritative information on the Australian history of asbestos mining, manufacture, and use.

Using this guide will help ensure that asbestos information communicated to the public is clear, consistent and evidence based. It has been developed to encourage the consistent use of evidence-based and verified information about asbestos, to remove variations in public information on asbestos, which acts as a barrier to achieving good public health outcomes.

This guide is not intended to replace language used by regulators to communicate legal requirements.

Feedback

This is a living document and will be updated regularly, with evolving research, new information and knowledge.

This guide was developed in consultation with state and territory government agencies, and non-government organisations.

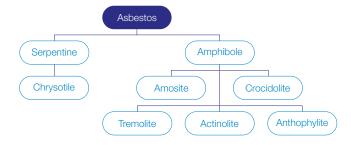
Feedback can be sent to engage@asbestossafety.gov.au with the Subject line 'Feedback – Communicating asbestos facts and figures.'

Key terms and definitions

The information below will help you understand this guide and therefore terms/phrases are not presented in alphabetical order.

Asbestos

A group of six types of naturally occurring, rock forming silicate minerals made up of thin, microscopic fibres or a mixture that contains one or more of these minerals.



Airborne asbestos fibres

Invisible asbestos fibres that are released into the air when asbestos or asbestos-containing material is disturbed.³

Asbestos-containing material

Any material or thing that, as part of its design, contains asbestos; there are friable and non-friable (or bonded) asbestos-containing materials.¹

Note 1: 'materials' or 'things' that contain asbestos can also be referred to as asbestos 'products' or 'applications', and the terms can be used interchangeably.

Note 2: 'asbestos cement products' are one type of material or thing, and this phrase is not to be used to describe all generic asbestos-containing materials.

Note 3: 'asbestos-containing material' is often abbreviated to ACM.

Friable asbestos

Material that is in a powder form or that can be crumbled, pulverised or reduced to a powder by hand pressure when dry and contains asbestos.⁴

Note 4: Friable asbestos has a higher risk of airborne asbestos fibres being released when it is handled, compared with non-friable asbestos. Friability can vary – some ACMs are more friable, or fibres more easily released than others.

Non-friable (bonded) asbestos

Material containing asbestos that is not friable asbestos including material containing asbestos fibres reinforced with a bonding compound.⁴

Note 5: non-friable asbestos may become friable asbestos through deterioration or damage.

Asbestos register

A document that lists all identified (or assumed) asbestos and the known locations, or likely presence, of asbestos in a workplace.⁴⁻⁶

Asbestos management

The process of preventing people being exposed to airborne asbestos fibres so far as is reasonably practicable; after identifying (or assuming) asbestos presence—assessing the risk of exposure to airborne asbestos and then implementing control measures that will eliminate or minimise the risk of asbestos fibres becoming airborne and reviewing the control measures to ensure they are working as planned.⁶

Asbestos volumes: Stocks

An estimate (based on modelling) of the volume (tonnes) of asbestos-containing materials remaining in the built environment.⁷

Asbestos volumes: Flows

An estimate (based on modelling) of the volume (tonnes) of asbestos-containing materials reaching end of product life, that will go to waste or disuse.⁷

Asbestos hazard

Asbestos fibres—themselves, or from within an asbestos-containing material—that become airborne and inhaled or ingested; asbestos fibres are a hazard because they possess chemical and physical properties that are toxic to human health.⁸

Asbestos risk

The likelihood of disease following exposure to asbestos.8

Asbestos-related diseases

The diseases that can arise due to asbestos exposure; the widely accepted asbestos-related diseases are lung cancer, malignant pleural or peritoneal mesothelioma (cancer of the mesothelial cells which cover most internal organs), laryngeal cancer, ovarian cancer, and asbestosis (pneumoconiosis caused by asbestos).

Note 6: we recommend not abbreviating the phrase asbestos-related diseases to ARDs, as this acronym is not well understood by the public.

First wave of asbestos-related diseases

Asbestos-related disease due to mining, milling ore and making asbestos products.¹⁰

Second wave of asbestos-related diseases

Asbestos-related disease due to working with and using asbestos products.¹⁰

Third wave of asbestos-related diseases

Asbestos-related disease due to repairing, renovating or demolishing asbestos-containing materials; can relate to both occupational and non-occupational exposure—is largely used to refer to exposure during home maintenance and renovation.¹⁰⁻¹²

Note 7: data from the Australian Mesothelioma Registry suggests but does not yet establish that home improvement/renovation is resulting in a third wave of asbestos-related disease.

Eradication of asbestos-related diseases

Achieving the aim of the Asbestos National Strategic Plan, which is preventing exposure to asbestos fibres.

Eradication of asbestos-containing materials

Removing asbestos-containing materials entirely from the built environment.

Note 8: given the large amounts of legacy asbestos present in the built environment, the goal of eradicating asbestos-containing materials is aspirational.

Asbestos safety

Safe handling and management of asbestos, implementation of controls that eliminate or reduce the risk of exposure to asbestos fibres.

Note 9: asbestos itself can never be safe; asbestos products can be removed safely/handled safely/disposed safely if correct procedures are followed.

Asbestos awareness

Changing attitudes and behaviours by providing people with information on the potential health risks of asbestos to help them understand how to prevent exposure to asbestos fibres.¹³

Note 10: this phrase cannot be used interchangeably with 'asbestos safety'.

How to communicate asbestos facts and figures

Asbestos – general information

Asbestos identification

What to say



- You cannot see airborne asbestos fibres.
- Airborne asbestos fibres are invisible to the naked eye.
- You cannot tell if a material contains asbestos just by looking at it.
- Only scientific testing of a sample can confirm the presence of asbestos.
- Professionals who can assist with identifying asbestos include:
 - occupational hygienists who have experience with asbestos
 - licensed asbestos assessors and removalists
 - individuals who have undertaken an accredited training course in asbestos identification.

Contextual notes



Asbestos fibres are in the low micron (one-millionth of a metre) size range and are only visible to humans with optical aids like microscopes—they are similar in size to dust particles or approximately 1/9th of a human hair.

The Australian Standard AS4964-2004 (Method for the qualitative identification of asbestos in bulk samples) requires at least polarised light microscopy for asbestos detection (with optional quantitative confirmation by higher resolution techniques such as infrared spectroscopy, X-ray diffraction, scanning electron microscopy or transmission electron microscopy).

WHS laws provide that only an asbestos test performed in an accredited laboratory can be used to identify asbestos in a material.

In Australia, the National Association of Testing Authorities (NATA) accredits laboratories for asbestos testing.

Asbestos bans

What to say



- Asbestos was completely banned in Australia from 31 December 2003.
- From 31 December 2003, the total ban on manufacture, use, reuse, import, transport, storage or sale of all forms of asbestos came into force.
- During the 1980s, asbestos materials started to be phased out in favour of materials made with no asbestos.
- All asbestos mining in Australia was stopped by 1983.

Contextual notes



The May 2001 meeting of the former Workplace Relations Ministers' Council (WRMC) agreed to the imposition of a ban on the import and use of chrysotile asbestos no later than 31 December 2003.

All states and territories implemented the prohibition from 31 December 2003 – check your jurisdiction for details on commencement of relevant laws on 31/12/2003 vs 1/1/2004.

Chrysotile asbestos was banned from that date and for other forms of asbestos the bans were clarified. Therefore the word "completely" or "fully" needs to be used.

Bans on the use of crocidolite and amosite were progressively put in place across Australia from the late 1970s onwards.

Asbestos laws

What to say



- Work health and safety laws have specific requirements to prevent asbestos exposure in all workplaces.
- Under environment protection laws everyone has a duty not to pollute the environment or to unlawfully dispose of asbestos waste.
- Everyone also has a duty under common law and public health laws to take reasonable care not to cause harm to another person. This includes preventing the release of airborne asbestos fibers.
- People selling homes that contain asbestos may be legally obliged to tell potential buyers. Requirements differ in each state, so they should seek advice from their real estate agent or property conveyancer.

Contextual notes The main laws to protect people from asbestos exposure are:



- Work health and safety laws ensure, so far as is reasonably practicable, the safe management and removal of asbestos in 'workplaces' - a place where work is carried out for a business or undertaking and includes residential premises that become a 'workplace' when a contractor is working there.
- Public health laws apply to anything that puts at risk or damages public health. By definition this includes asbestos, although only Queensland and Western Australian public health laws contain specific provisions relating to asbestos.
- **Environment protection laws** have requirements relating to the safe transport, storage and disposal of asbestos.
- Real estate and consumer protection laws have requirements relating to the disclosure of asbestos in a property to prospective buyers.

¹⁸ (ASEA report available on request)

Legacy use of asbestos in Australia

When were friable asbestos products first used?

What to say



Friable asbestos products were used in residential, commercial and industrial settings beginning in the late 1800s.



Contextual notes Some early friable asbestos applications were in heavy industry particularly for steam-driven machinery.

Some friable asbestos products can also be found in homes.

19 20 (ASEA report available on request)

When were asbestos cement materials first used?

What to say



- Asbestos cement materials were first imported to Australia around 1903.
- Asbestos cement materials were first manufactured in Australia from around 1917 onwards.



Contextual notes The vast majority of asbestos-containing products used in buildings were non-friable (or bonded) asbestos cement materials.

Asbestos used in homes

What to say



- Many homes built before 1990 contain asbestos.
- Asbestos can be anywhere inside or outside the home.



Contextual notes The peak period of use in residential building materials was from the mid-1940s until the late 1980s.

> Research has shown that 1990 is a simple heuristic for the public to remember.

19 23 (ASEA report available on request)

Market testing of communication assets for NAAW 2021

Density in the residential environment

What to say



- Across Australia, asbestos is in 1 in 3 homes.
- If a home was built before 1990 and hasn't had a major renovation it is likely to contain asbestos.

Contextual notes



This statistic reflects average density levels across Australia.

This means in some areas the density will be higher (e.g. old industrial areas), while in other areas it will be lower (e.g. newer developments).

Source: Source of the statistic is unknown but ongoing research by the Latrobe Valley Asbestos Taskforce and ASEA support this.

Asbestos in workplaces

What to say



Under Work Health and Safety laws, an up-to-date asbestos register must be kept for all workplaces where asbestos is present or assumed to be present, unless that workplace is exempt because it is a domestic premise used for residential purposes.



Australian Capital Territory, Tasmania, South Australia and Northern Territory an asbestos register must also be prepared and kept for a workplace constructed before 1 January 2004 when no asbestos or ACM is identified at the workplace or is not likely to be present from time to time. The register must state that no asbestos is present.

Asbestos products

Number of products

What to say

Asbestos was used in over 3,000 products





Contextual notes Note - this statement should not be changed to "building products" or "industrial products" – it should stand alone as "products" to be accurate.

Age of products

What to say



- Asbestos products in Australian buildings are anywhere between 30-100 years old.
- This age means that asbestos products are starting to degrade, increasing the risk of becoming friable and releasing fibres.



Contextual notes In the 2021 Stocks and Flows report, product lifespan (the mean lifetime or Lav) is an estimate of how long products typically remain in the built environment and is not a direct indicator of product age or life.

723 (ASEA report available on request)

National asbestos stocks (amount remaining in the built environment)

What to say



- It is estimated that 13 million tonnes of asbestos-containing materials were consumed in the Australian built environment.
- It is estimated 6.4 million tonnes of Australia's asbestos legacy remains in the built environment.
- Asbestos cement products make up around 95% of the remaining legacy asbestos in the built environment.





2021: estimated stock remaining in the built environment is between 6.1 and 7.5 million tonnes.

2060: without significant intervention, stocks will passively decline to approx. 1 million tonnes.

More than 50% (3.4 million tonnes) of asbestos cement products remaining are asbestos cement water and sewerage pipes.

Victoria has 70% of Australia's asbestos-containing water and sewerage pipes.

⁷ Water Services Association of Australia (WSAA) research (unpublished)

Removal and waste

Emergency removal vs planned removal

What to say



Emergency or unplanned removal of asbestos-containing materials (for example, a clean up after a disaster event) is more expensive than planned removal.



Contextual notes Asbestos removal companies highlighted a median 20% cost difference between planned asbestos removal and urgent removal of asbestos.

Asbestos waste

What to say



- Asbestos waste is increasing annually. This includes asbestos-contaminated soils and rubble.
- Asbestos waste in Australia has increased nationally from approximately 315,000 tonnes (in 2006-07), to 1.42 million tonnes (in 2020-21).
- 21% of Australia's hazardous waste is asbestos.

Contextual notes



Asbestos waste data represents an estimate derived from state and territory government hazardous waste tracking systems. It is recorded and reported differently in different jurisdictions.

Most asbestos waste comes from renovation and urban development and goes to landfill. Building and demolition waste can also be contaminated with asbestos.

Illegal dumping

What to say



- It is estimated that over 6,000 tonnes of asbestos-containing materials are illegally dumped in Australia per annum.
- Asbestos waste must be disposed of at a site that is licensed to accept it.

Contextual notes



The estimate in 2016 was that around 6,300 tonnes of ACMs were illegally dumped, at a cost of around \$11.2 million per annum.

These figures involve several significant assumptions based on limited data.

Asbestos awareness levels

In homeowners

What to say



Homeowners mostly know that asbestos is dangerous, but do not have a good understanding of where asbestos can be found in the home and how they can protect themselves.

Contextual notes



Only 6% of home improvers spontaneously mentioned asbestos as a potential risk when planning a home improvement project.

Only 2 in 3 participants at most could correctly identify each potential source of asbestos when prompted with a list – while 2 in 5 picked at least one incorrect source.

28% of home improvers who have encountered asbestos admit to inappropriate disposal methods – most commonly placing it in their household general waste bin.

²⁸ (ASEA report available on request)

In property managers and real estate agents

What to say



- Both real estate agents and property managers are aware of asbestos exposure dangers and are managing asbestos presence in a mostly open and transparent manner.
- Most property managers and real estate agents mistakenly believed that pre-sale property inspections cover the presence of asbestos, potentially relying on them for disclosure purposes.

Contextual notes



Real estate agents and property managers may have obligations to disclose the presence, or potential presence, of asbestos when selling or renting properties.

69% real estate agents and 83% property managers believe that a pre-sale building inspection report will tell you if asbestos is present, when usually it will not.

Most real estate agents and property managers are aware that asbestos may be present in older buildings.

50% of property managers and agents reported that they always inform prospective buyers or tenants that a property they are interested in contains asbestos, 21% reported never or rarely doing so.

²⁹ (ASEA report available on request)

In workers in workplaces with asbestos containing materials

What to say



Workers mostly know that asbestos is dangerous, but do not have a good understanding of where asbestos can be found in any workplace setting, how they can protect themselves, and proper disposal methods.

Contextual notes



Workers in key sectors were more likely to choose incorrect potential locations for asbestos, including metal roofing, ceramic or marble benchtops, and glass tiles.

A proportion of workers selected inappropriate disposal methods when presented with hypothetical scenarios where ACMs have been found in the home (31%), and in the workplace (29%).

These individuals work in older buildings that are more likely to contain asbestos. With ACMs deteriorating over time, they are at risk to exposure to asbestos fibres.

In the 2022 study, this cohort was proxied by focusing on workers in key sectors with a high prevalence of older, government-owned buildings that are more likely to contain asbestos – in particular, those working in correctional and detention centres, education and training, health care and social assistance, and public administration.

³⁰ (ASEA report available upon request)

In tradespersons

What to say



- Tradespeople have a strong knowledge about where ACMs can be found, what they are and what they look like.
- They can sometimes overestimate what their qualifications allow them to do or are unsure of what they can and can't do when it comes to asbestos management on a work site.

Contextual notes



90% of tradespeople know where ACMs can be found, 84% know what they are, and 83% know what they look like.

While tradespersons demonstrated high levels of knowledge around where asbestos materials could be found, at least one fifth remained unsure or incorrectly believed some risky construction items did not contain asbestos. This was primarily from the responses of the younger population of this cohort, who need reminders about common materials that contain asbestos and where these might be located.

One quarter (26%) agreed that it is okay for a tradesperson of any qualification to remove asbestos from a workplace. While this may be correct under circumstances, it may also be due to overconfidence in their qualifications, a lack of knowledge, or a more relaxed attitude when dealing with asbestos.

³⁰ (ASEA report available upon request)

Asbestos and health

Risk of disease - cancer risk

What to say

Asbestos causes cancer.





Contextual notes This clear unqualified statement has been tested as being highly effective at prompting safe behaviours in the general public.

> It has been proven that all forms of asbestos, including chrysotile, cause mesothelioma and cancers of the lung, larynx and ovary. Causal associations have also been observed between asbestos

exposure and cancer of the pharynx, stomach and colorectum. although the evidence is not sufficient to identify asbestos as a cause of those cancers.

² Market testing of communication assets for NAAW 2021

Risk of disease – exposure-response

What to say



- The risk of developing an asbestos-related disease increases with more exposures.
- The risk of developing an asbestos-related disease increases in proportion to the number of asbestos fibres a person breathes in during their life.
- Some people develop disease from minor exposure, and it is not possible to determine who will or will not get disease.
- The only way to eliminate the risk is to avoid exposure.



Contextual notes The health effects of inhaled asbestos fibres are related to the intensity and duration of exposure.

> The development of malignant mesothelioma is dependent on the inhaled 'dose' of asbestos fibres, by way of a no-threshold dose-response relationship—as cumulative asbestos exposure increases, so does the probability and frequency of occurrence of mesothelioma.

33-35

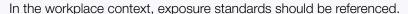
Risk of disease – exposure level

What to say



- The World Health Organisation (WHO) says there is no known safe level of exposure to asbestos.
- No threshold has been identified below which cancer will not occur.
- The workplace exposure standard for asbestos in Australia is 0.1 fibre per millilitre of air over an 8-hour period.
- Employers must ensure worker exposure to airborne asbestos is eliminated. If it cannot be eliminated, it must be minimised as far possible and the exposure standard for asbestos must not be exceeded.
- Exposure to asbestos at this level has been estimated to cause an additional 125 cases of cancer during a lifetime per 100,000 people.

Contextual notes





Asbestos is a non-threshold carcinogen, which means that no health based occupational exposure limit (OEL) can be identified. Instead, an exposure–risk relationship is derived which expresses the excess exposure risk (EER) for lung cancer and mesothelioma mortality as a function of the asbestos fibre concentration in the air. The EER has been calculated based on all types of asbestos by combining all studies regardless of the asbestos type and the working population that was exposed.

5 31 32

Risk of exposure

What to say



- All asbestos-containing materials are dangerous if damaged, disturbed or deteriorating.
- All exposure to airborne asbestos fibres which can arise from asbestos-containing materials that are damaged, disturbed or deteriorating must be avoided.

Contextual notes



This refers to both friable and non-friable asbestos.

Asbestos in drinking water

What to say



- The weight of evidence of current toxicological data does not support the hypothesis that ingesting asbestos from drinking water is associated with increased cancer risk.
- The concentrations of asbestos fibres in drinking water should be minimised as far as practical—the measures taken to control the risks of airborne asbestos exposure from asbestos cement pipes are also effective in eliminating or minimising ingestion of asbestos fibres in drinking water.
- The WHO suggests that investigative monitoring to obtain information on the contribution of older asbestos cement pipes to fibre numbers, types, size and shape in drinking water would be useful.

Contextual notes



There is no health-based guideline value for asbestos in drinking water in Australia.

The WHO has not set a guideline value because it concluded that there is no consistent evidence for adverse health effects from ingested asbestos.

The United States EPA has established a maximum contaminant level (MCL) for asbestos in drinking water of 7 MFL (million fibers per litre > 10 µm in length).

36-39

Asbestos-related diseases

Types of asbestos-related diseases

What to say



- Asbestos causes several life-threatening diseases.
- Exposure to asbestos fibres can cause asbestosis, mesothelioma, and cancer of the lung, ovary, and larynx.



Contextual notes Asbestos is the only known cause of asbestosis and is the predominant cause of mesothelioma.

> Cancer of the lung, larynx and ovary, are known to be caused by a number of other carcinogenic agents in addition to asbestos.

Annual deaths from asbestos-related diseases in Australia

What to say



- An estimated 4,000 Australians die annually from asbestos-related diseases. This is nearly four times the annual road toll.
- A proportion of lung cancer deaths in Australia are attributable to past asbestos exposure.

Contextual notes



The asbestos-related disease figure represents estimated deaths. The estimate for 2019 was 4449.

Of the estimated deaths in 2019, 3307 were due to lung cancer, 802 due to mesothelioma, 148 due to asbestosis, 144 due to ovarian cancer and 48 due to cancer of the larvnx.

Estimates of the number of deaths from asbestos-related diseases in Australia are reported form data produced by the Global Burden of Disease (GBD) study.

Deaths from asbestos-related disease are those deaths that the GBD study has attributed to the risk factor of past occupational asbestos exposure only.

The road toll figure represents actual deaths. The exact figure for 2019 was 1186.

The number of deaths due to asbestos-related diseases in Australia has continued to increase steadily for both men and women between 1990 and 2019 (the period covered by the GBD study).

Mesothelioma - annual deaths

What to say



- Approximately 700 people die annually from the aggressive cancer mesothelioma which is caused mainly by exposure to asbestos.
- There is no cure for mesothelioma.



Contextual notes 642 mesothelioma cases were diagnosed in 2020 and were reported to the Australian Mesothelioma Registry (AMR), with a median age at diagnosis of 75.

> 696 deaths of people with mesothelioma were recorded on the AMR in 2020 —a rate of 2.1 deaths per 100,000 population.

Mesothelioma can be associated with occupational and non-occupational exposure to asbestos. Because mesothelioma typically develops a long time after exposure, the majority of deaths relate to occupational exposure in workplaces that occurred before current work health and safety laws were in place.

The AMR produces the most up to date and accurate data on mesothelioma incidence and mortality in Australia. The AMR collects information on new cases of mesothelioma diagnosed in Australia since 1 July 2010.

Whilst the AMR reports actual recorded incidence and mortality for mesothelioma in Australia, the GBD Study reports estimates of disease based on known risk factors and other available data. For this reason, estimates reported through the GBD Study may differ from year to year to those captured by the AMR. Both data sources are valuable for studying mesothelioma prevalence.

Mesothelioma – latency period

What to say



- Mesothelioma has a long latency period with symptoms typically appearing decades after a person has been exposed to asbestos.
- The latency period can range from 20-60 years.



Contextual notes One study quoted in the latest AMR report found the median latency to be 38 years. Another reported a latency period of between 33 and 44 years.

12 42

Mesothelioma – non-occupational exposure risk

What to say



- The highest risk of exposure today is in the home / residential environment.
- In 2020, it was estimated that 1 in every 3 new mesothelioma cases was non-occupational exposure.
- In Australia there is an increasing number of cases of mesothelioma diagnosed that have an associated non-occupational exposure.

Contextual notes



There are several factors that contribute to the risk during or from home renovation, e.g. lack of awareness and appreciation of the risk, lack of knowledge of detailed controls in the laws, enforceability of the applicable laws.

Asbestos exposure information related to mesothelioma disease is gathered from a small subset of consenting individuals with mesothelioma via a questionnaire run by the AMR.

Most of the information available about asbestos exposure currently, relates to past occupational exposures, and there is a lack of information about non-occupational exposures.

This is why data collected from the Australian Mesothelioma Registry suggests, but does not establish, that home renovation is now contributing to mesothelioma.

Of the 1,028 asbestos exposures detected and analysed through the AMR to date, most involved non-occupational exposure, either solely non-occupational exposure (35.8 %) or a combination of non-occupational and occupational exposure (52%). Only 12.2% of exposures were for occupational exposure only.

Deaths from asbestos-related diseases worldwide

What to say



In 2016 an estimated 219,000 deaths globally were attributable to occupational exposure to asbestos.



Contextual notes Systematic analyses of the 2016 GBD study published February 2020. This figure does not include deaths from non-occupational exposure.

Asbestos and all occupation-related cancer deaths

What to say



In 2016 asbestos was responsible for 80% of all occupation-related cancer deaths in high-income regions (Australasian, Western European, high income North America and Asia Pacific regions) and 63% of occupation related cancer deaths globally.

Contextual notes





Future asbestos-related deaths

What to say



Even if asbestos exposures were to cease completely, deaths from asbestos-related cancers would be expected to continue for the next four to five decades.

Contextual notes Systematic analyses of the 2016 GBD study published February 2020.



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