Australian Government

Repatriation Medical Authority

Repatriation Medical Authority
Practices and Procedures

Contents

This document sets out the current practices and procedures of the Repatriation Medical Authority (RMA). It is endorsed by the RMA and reviewed regularly.

Overview of the Statements of Principles System

What are Statements of Principles?

1. Statements of Principles (SOPs) are legal instruments, based on sound medical-scientific evidence (SMSE), which state the factors that must exist for a particular disease, injury or death to be linked causally to prior service. They are tabled in the Australian Parliament and are binding on decision makers at all levels, including the Courts. SOPs are the instruments used to determine eligibility for entitlements under the *Veterans' Entitlements Act 1986* (VEA) and the *Military Rehabilitation and Compensation Act 2004* (MRCA).

2. The VEA is "beneficial legislation" and is intended to be generous. This is seen in the legislative tests for the inclusion of factors set out in Part XIA of the VEA, which permit factors at standards of proof lower than those that might be considered appropriate in clinical and other public health settings.

What is the RMA?

3. The Repatriation Medical Authority (RMA) is an independent statutory authority responsible to the Minister for Veterans' Affairs. It consists of five practitioners eminent in the field of medicine or medical science, and includes at least one experienced epidemiologist. The main role of the RMA is to determine SOPs. The RMA formally meets as a body on a regular basis to consider and finalise SOPs.

Disease or injury

4. The RMA must first consider whether or not the condition in question is a disease or injury. Disease is defined in subsection 5D of the VEA as follows:

> *Disease* means:
> (a) any physical or mental ailment, disorder, defect or morbid condition (whether of sudden onset or gradual development); or
> (b) the recurrence of such an ailment, disorder, defect or morbid condition but does not include:
> (c) the aggravation of such an ailment, disorder, defect or morbid condition; or
> (d) a temporary departure from:
> (i) the normal physiological state; or
> (ii) the accepted ranges of physiological or biochemical measures;
> that results from normal physiological stress (for example, the effect of exercise on blood pressure) or the temporary effect of extraneous agents (for example alcohol on blood cholesterol levels).

5. The RMA determines whether the condition is a particular kind of disease or injury using its own expertise, relevant evidence and the common understanding of the meaning of these terms.

Sound medical-scientific evidence

6. The statute provides for the RMA to have regard to the SMSE in assessing which factors can link the condition to service. SMSE is defined in subsection 5AB(2) of the VEA as follows:

> Information about a particular kind of injury, disease or death is taken to be *sound medical–scientific evidence* if:
>
> (a) the information:
>
> (i) is consistent with material relating to medical science that has been published in a medical or scientific publication and has been, in the opinion of the Repatriation Medical Authority, subjected to a peer review process; or
>
> (ii) in accordance with generally accepted medical practice, would serve as the basis for the diagnosis and management of a medical condition; and
>
> (b) in the case of information about how that kind of injury, disease or death may be caused- meets the applicable criteria for assessing causation currently applied in the field of epidemiology

Two standards of proof

7. The RMA determines SOPs at two standards of proof. Figure 1 shows the process for making SOPs at each standard.

8. SOPs determined under s 196B(2) specify the factors that can connect an eligible person's injury, disease or death to operational service or its equivalent[1]. These SOPs are known as reasonable hypothesis (RH) SOPs. For a factor to be included in this instrument, the SMSE has to indicate or point to a reasonable hypothesis of a causal association between the factor and disease. In making this determination, all of the available SMSE is taken into account, and single studies are assessed within this context.

9. SOPs determined under s 196B(3) specify what factors can connect an eligible person's injury, disease or death to non-operational service[2]. These SOPs are known as balance of probabilities (BOP) SOPs. For a factor to be included in this instrument, the SMSE has to show that it is more probable than not that the factor is causally related to the disease.

10. In considering what is meant by the term "reasonable hypothesis", the RMA is guided by relevant judicial decisions prior to its establishment, particularly the deliberations of the High Court of Australia in the cases of *Bushell* (1992)[3] and *Byrnes* (1993)[4]. A definition of reasonable hypothesis is cited in *Bushell* as follows:

> *"To be reasonable, a hypothesis must possess some degree of acceptability or credibility - it must not be obviously fanciful, impossible, incredible or not tenable or too remote or too tenuous. For a reasonable*

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[1] The relevant service is defined in s 196B(2) of the VEA as including peacekeeping service rendered by members of Peacekeeping Forces, hazardous service, British nuclear test defence service, and warlike or non-warlike service rendered by serving members.

[2] This type of service is defined in s 196B(3) of the VEA as including eligible war service (other than operational service), defence service (other than hazardous service and British nuclear test defence service) and peacetime service for serving members.

[3] *Bushell vs Repatriation Commission* (1992) 175 CLR 408.

[4] *Byrnes vs Repatriation Commission* (1993) 177 CLR 564.

hypothesis to be 'raised' by material …, we think it must find some support in that material - that is, the material must point to, and not merely leave open, a hypothesis as a reasonable hypothesis."

11. On the other hand, the BOP SOP test of "more probable than not" was the subject of consideration by the High Court in *Bradshaw v McEwans Pty Limited* (1951)[5] as follows:

> *"By more probable than not is meant no more than that upon a balance of probabilities such an inference might reasonably be considered to have some greater degree of likelihood"*

12. A review of the RMA conducted in 1997[6] confirmed that the quality of decision making by the RMA was generous, while remaining within the bounds of scientific credibility.

13. Depending on the strength of the evidence supporting a causal association, a factor may be in both instruments (stronger evidence), the RH instrument only (weaker evidence), or neither (inadequate or insufficient evidence, or evidence of no association). Sometimes a factor may be in both instruments but described in a way that is easier to meet in the RH instrument in accordance with the more generous standard of proof. For example, the required exposure dose may be lower or the time to clinical onset longer in the RH instrument.

14. For factors that can be described in terms of levels of exposure, the dose may be quantified in various ways. Examples include pack-years for smoking, sieverts for ionising radiation, numbers of hours or days within a specified time period for certain chemicals or activities and body mass index for overweight or obesity. Some factors are not quantifiable. Examples include having a specified disease or injury or being exposed to a particular virus or other kind of infectious agent.

15. The amount and quality of available evidence may affect the RMA's ability to differentiate the dose in the two standards. Where a causal relationship is well-established for a quantifiable factor, and there is detailed information concerning the relationship between the exposure dose and the condition, it may be possible to accurately determine a dose consistent with the reasonable hypothesis standard, i.e., which is associated with a small but measurable increase in risk. When such information is absent, the lower dose in the range can be applied to the reasonable hypothesis standard. For risk factors with less information, a reliable distinction between the doses for the two standards is harder to make based on empirical evidence.

16. The following diagram summarises the process of SOP determination for a new condition. The process is the same for a review of an existing condition, except that consideration of whether the condition is a disease or injury is not usually necessary.

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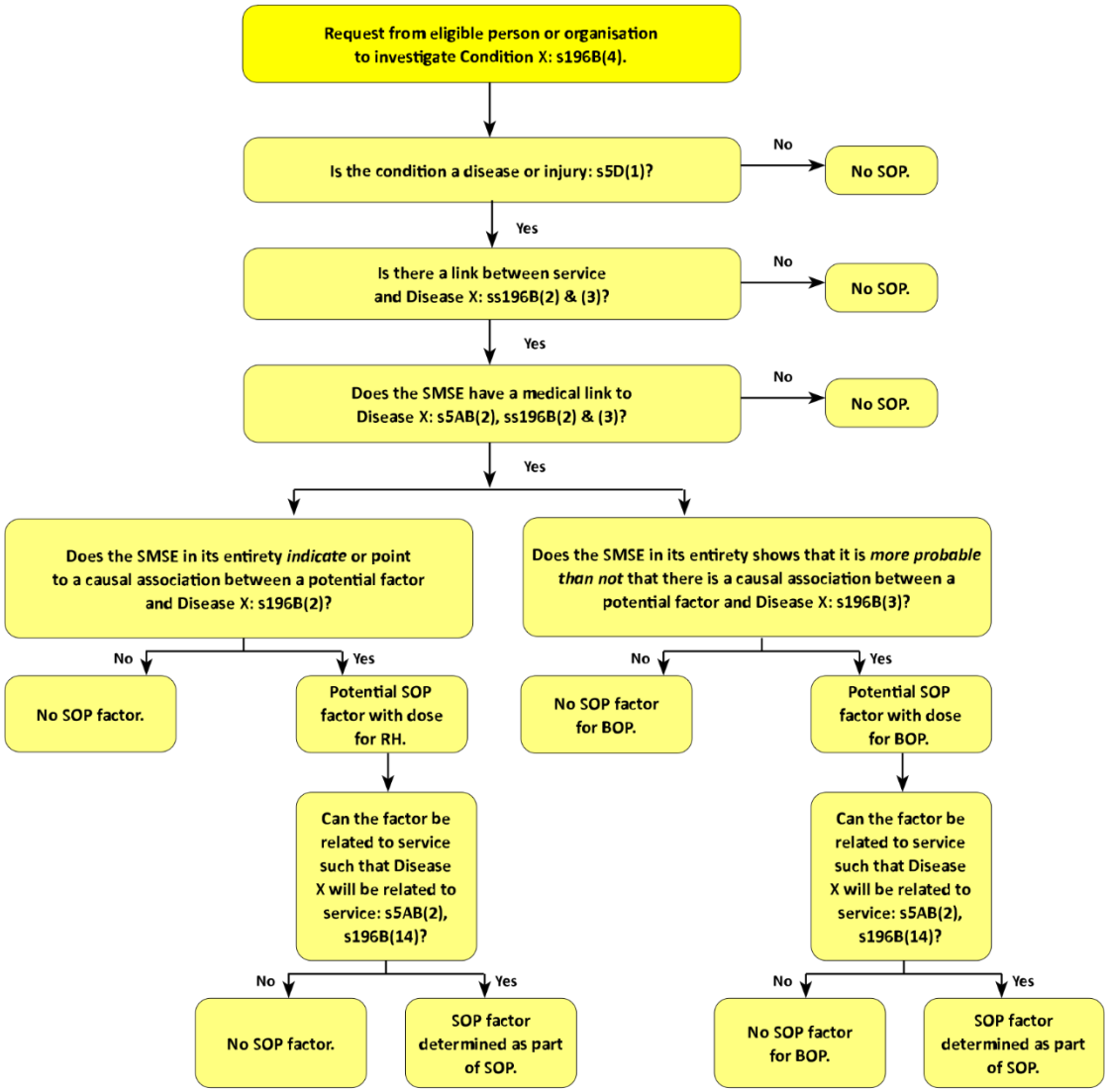
[5] Unreported, 27 April 1951; cited with approval in *Holloway v Mc Feeters* (1956) 94 CLR 470 at 480-1.

[6] Pearce D, Holman D (1997) *Review of the Repatriation Medical Authority and Specialist Medical Review Council*. Commonwealth of Australia, p. 101-103.

Figure 1: Determination of SOPs for new condition - Disease X



* Statutory references are to the VEA.

* Request for amendment of an existing SOP is dealt with in a similar manner save that it is an existing disease.

Regular review of SOPs

17. SOPs are regularly updated as new SMSE emerges. The *Legislation Act 2003* requires that legal instruments are reviewed and reissued every ten years, which the RMA regards as a maximum period within which to review medical-science to ensure that it is up-to-date. The RMA aims to review SOPs on a more regular basis where required by the emergence of new SMSE.

18. SOPs may also be reviewed more frequently if there is a request from an eligible party to do so, where sufficient, relevant information is included in the request. Eligible parties include Veterans, defence personnel, organisations representing Veterans or members of the Australian Defence Force (ADF), and the Repatriation Commission or the Military Rehabilitation and Compensation Commission. Eligible parties can also request the RMA to make a SOP for a condition not covered by an existing SOP, and have the right to request that the contents of a SOP or a decision not to make a SOP or amend a SOP be reviewed by the Specialist Medical Review Council.

19. When reviewing a SOP, the RMA considers all the available SMSE that was previously available to it, and the new information. The new information may reinforce existing factors, suggest a change of dose, suggest new factors or occasionally suggest that a factor be removed. There is a higher threshold for removing a factor than putting one in. This is logical as convincing negative evidence sufficient to alter an overall assessment of the relevant SMSE is required before the RMA could properly be satisfied that a factor should be removed. Thus, it is far more common for new factors to be added at a review than for factors to be removed.

Evidence gathering and assessment processes

Briefing papers

20. Researchers from the RMA secretariat prepare comprehensive briefing papers for the consideration of the RMA. These papers systematically describe and analyse the available SMSE concerning potential risk factors for the condition under investigation, and identify issues warranting consideration by the RMA. Using this information, the evidence relating to each factor and the disease in question is summarised, and draft disease definitions and factors developed.

21. The researchers also categorise the strength of the evidence according to predetermined levels or grades (refer Attachment 1). Grades are assigned by the researchers after a critical appraisal and assessment of the available evidence pertaining to each contended risk factor. They serve as a guide to RMA Members in determining whether factors should be included in the RH instrument, both instruments, or neither instrument.

22. The evidence, grading recommendations, draft definitions and draft factors are discussed with and approved by an RMA Member who has been assigned responsibility for the particular investigation or review. They are further discussed by the RMA as a whole at its regular meetings. At these meetings the RMA decides whether or not to endorse or modify draft factors and draft definitions for inclusion in the SOPs.

Sources of sound medical-scientific evidence

23. The process for sourcing evidence for the briefing papers follows standard practices for systematic reviews. There is an initial search of medical-scientific databases and other sources of information, a selection of relevant studies or reports identified in the search or by a review of citations, then a critical appraisal of the information.

24. The medical-scientific databases used are *PubMed*, *Ovid Medline* and *PsycInfo*. Other relevant information may be found by looking at reference lists of identified articles, reports or monographs from reputable research organisations (e.g., the International Agency for Research on Cancer, the Health and Medicine Division of the National Academies of Science), and textbooks (e.g., *Harrison's Principles of Internal Medicine*). Material taken directly from web sites can be used but only if the

author or organisation is recognised as authoritative. Information submitted by applicants and other interested parties is also considered during this process. From time to time, the RMA may also consult with experts to clarify a technical issue, or to seek current clinical opinion.

Searches

25. Databases are searched for studies of aetiological factors in humans and articles are selected on the basis of relevance, study quality, reliability and journal authority. Publications are largely limited to those in English. Animal and experimental studies are usually only obtained if they have a particular relevance to an association in question.

Critical appraisal

26. Appraisal of the information first involves critical assessment of the quality and strength of each article individually, prior to assessment of all of the information relevant to the association in question.

27. Articles are categorised by study design, which is an important characteristic for determining the quality of a study. Randomised controlled trials are considered the strongest evidence, but are often not feasible for risk factors which cannot be randomly allocated for ethical reasons. Next in the hierarchy of evidence quality are prospective cohort studies, followed by retrospective cohort studies, case-control studies, cross-sectional studies and case reports. Mendelian randomisation studies may contribute to the assessment of causation in conjunction with traditional epidemiological studies.

28. Other important characteristics in appraising the quality of a study are the method of selection of study subjects, the way in which the factors of interest and outcomes are measured, the assessment and control for potential confounders (alternative risk factors), the sample size and the statistical significance of the results.

Assessment of causation

29. The RMA Members' assessment of causation takes into account the body of relevant SMSE, in conjunction with the Members' own expertise in epidemiology and clinical medicine. The beneficial nature of the legislation, as embodied in the relevant statutory tests, allows the RMA to make judgements of causality on the basis of weaker evidence than would be accepted in many other contexts. The RMA aims to assess the SMSE in a manner that is as consistent as possible across factors, and across SOPs.

30. Standard epidemiological criteria are used by the researchers and RMA Members in the assessment of causation. They are consistent with standard frameworks, such as the criteria listed by Bradford Hill[7], and include the following:

- temporality - the cause should precede the effect,
- strength of association - the greater the increase in risk of disease in the exposed group compared to the unexposed group, the stronger the indication of causality,

[7] Hill AB. The Environment and Disease: Association or Causation? *Proc R Soc Med* 1965; 58: 295-300.

- observation of a dose-response effect - the greater the amount of exposure, the greater the risk of disease (a gradient effect),
- biological plausibility - evidence from animal or experimental studies demonstrates a mechanism of disease,
- consistency with other evidence - studies in different populations and over different time periods give the same results,
- absence of alternative explanations for an association - the relationship between the risk factor and the disease is not due to random error or the way in which studies have been designed, subjects are selected or risk factors and outcomes are measured (chance, bias or confounding).

31. When a number of these criteria are met, the association is more likely to be causal. No single criterion is sufficient to determine causation, and only temporality is a necessary condition. Some general propositions which inform the RMA's approach can be stated.

32. Most importantly, it is necessary to review the whole body of evidence to avoid selective interpretation of the results. The conclusions of studies of a more sophisticated design and which are methodologically sound carry greater weight than less well conducted studies because alternative explanations for associations are less likely.

33. In the situation where there are a large number of studies concerning the relationship between a factor and the condition of interest, the RMA looks for consistency of the results. If most of the studies show no association and are of good quality, their conclusions will outweigh those of a small number of studies that find an association, unless there is a clear methodological reason to prefer the latter group of studies. On the other hand, if there are only a few studies of a relationship and there is a discrepancy in the findings, the factor is more likely to be included, though usually in the RH SOP only.

34. While these and other sound logical propositions guide the RMA in its deliberations, it is the expertise and experience of its Members which enables sound judgement to be made about the factors pertinent to each disease or injury. This approach also informs the formulation of factors.

Formulation of factors

35. The RMA aims to express factors in a way which accurately and clearly reflects the evidence. It is also mindful that factors that are similar in different conditions should be expressed as consistently as possible, while still having regard to the evidence for that particular condition. Parameters considered when assessing consistency include dose, latency between exposure and disease onset, cessation periods where relevant and relativities between the two standards of proof.

36. Only some studies will provide enough detailed information to determine the level of exposure at which risk increases, or the length of time between exposure and onset of disease. When quantifying dose, the RMA does not generally take into account individual background levels of exposure, making the assumption that the factor will have the same effect on causation of the condition regardless of background exposure (for example background exposure to sunlight or radiation).

37. The RMA recognises that there can be synergistic effects between some pairs or groups of factors, but generally includes factors singly in its SOPs. To formulate a factor taking into account synergy,

the interaction would need to be quantified by levels of exposure to one factor in terms of level of exposure to the other factor, and would go well beyond the available evidence for most factors. The use by the RMA of doses that are the lowest consistent with the evidence means that a SOP factor makes allowances for groups that may be at higher risk due to exposure to some other factor.

38. Females can be at higher risk for some conditions. There are SOPs and factors for injuries, diseases or exposures which only or largely apply to women. Where the evidence allows, different doses in factors may be specified for females. A distinction between doses for males and females is often difficult to quantify due to lack of studies which specifically measure exposures in females. However, as noted above, the use by the RMA of doses that are the lowest consistent with the evidence means that a SOP factor makes allowances for groups that may be at higher risk due to intrinsic risk factors, including gender.

39. Sometimes there is evidence that an exposure may be protective, that is, it reduces the risk of developing or worsening a particular kind of disease. In that case, the RMA may include a factor expressed as an "inability" to undertake the protective activity.

40. In general, the RMA considers that exposures which can cause a condition may also permanently worsen that condition. Some exceptions are cancers and infectious diseases, in which some causes logically only relate to the onset of the condition. Information concerning factors which might worsen a condition is often not available, but generally where a risk factor is related to onset, it can, consistent with the statutory tests, be assumed to contribute to the worsening of that condition. Before any exposure can be included as a worsening factor, it is necessary to be satisfied that the exposure is able to be related to service after the onset of that condition. Again, the expertise and experience of the RMA is applied here in assessing the circumstances relevant to each condition.

Procedural matters

Prioritisation of investigations and reviews

41. As a general principle, investigations and reviews are prioritised by chronological age (taken from date of gazettal notification rather than date of receipt of request). However, there are a number of situations where the RMA may prioritise a particular investigation or review. These situations include the following (not in order of importance):

- Claims for conditions for which there are no existing SOPs (non-SOP conditions) cannot legally be determined once an investigation notice has been gazetted. In order not to hold up an excessive number of claims, non-SOP conditions may be prioritised when there are more than ten claims outstanding.
- In any case where a notified review is identified by the RMA legal adviser, either of the Commissions, a national ex-service organisation (ESO) or the Minister as raising a serious problem warranting prioritisation, consideration will be given by the RMA to such a request.
- The RMA can notify a full or partial (focussed) review. The terms of a focussed review are notified in the government gazette. Part of the basis for restricting the focus of the review is to enable a speedier finalisation of the matter(s) under review. To ensure that this occurs and to avoid additional issues outside of the notified focus of the review arising, focussed reviews are generally given priority.
- From time to time, investigations or reviews are more efficient when considered in conjunction with one or more other related investigations or reviews. Examples include the concurrent

reviews of migraine, cluster headache and tension-type headache, and the concurrent consideration of cervical, thoracic and lumbar spondylosis.

Operational issues

42. Operational issues associated with factors include the way in which factors are worded or set out in order to be relevant to service personnel and easy to comprehend and use. Advice on these issues is obtained at the informal meetings held immediately prior to RMA formal meetings, which are attended by advisers from the Department of Veterans' Affairs (DVA), an adviser from the ADF and an ESO adviser. This advice draws on those advisers' knowledge and experience, especially knowledge of service conditions and experience of difficulties when making or assessing claims.

43. Since 2014, New Zealand has incorporated the SOPs into its decision making framework, under its *Veterans' Support Act 2014*. A review of this Act in 2018 recommended that a New Zealand Veterans' Affairs (NZVA) medical practitioner attend RMA meetings. The RMA agreed to extend an invitation to an NZVA nominee to attend RMA meetings as an expert adviser.

44. Where a factor has been removed, draft SOPs are sent out for stakeholder consultation for a minimum period of three months. Any comments are taken into consideration before the SOPs are finalised.

Finalisation of SOPs

45. Once factors and definitions have been discussed at one or more RMA meetings, a draft SOP is drawn up for further discussion and final approval at the following RMA meeting. The final SOPs are registered with the Federal Register of Legislation and are available on the corresponding website. As part of the registration process, an Explanatory Statement for each SOP is prepared. Each SOP and its Explanatory Statement are tabled in Parliament. SOPs are listed both alphabetically and by category of disease or injury on the RMA website.

Attachment 1 - levels of evidence

General considerations

Application of criteria

1. The Authority is unaware of any single set of recognised criteria that can be uniformly applied in the classification of a factor, or that would adequately capture the subtleties and methodological variations of all studies considered. The best available evidence varies across different medical fields and different types of exposures. There is often uncertainty about the boundaries between grades and there may be minimal information concerning such parameters as dose and latency. For these reasons scientific judgment, based on the Authority's considerable clinical and epidemiological experience, is needed to assess the strength of the SMSE concerning the likelihood that a risk factor is causally related to the disease or injury under investigation.

Aetiological focus

2. As far as possible, the Authority seeks to identify specific agents considered most likely to be responsible for any excess risk of the disease or injury that is the subject of a Statement of Principles. However, it is recognised that available studies often report on broader types of exposure, such as a chemical mixture, an industrial process or activity, or even an entire occupational category. The evaluation is therefore focused as narrowly as the available data on exposure and other aspects permit. In some circumstances, it may be possible to narrow the focus enough to determine a factor (e.g., solvents, working as a painter), but in other circumstances the category may be so broad as to preclude a meaningful association (e.g., pesticides).

Levels of evidence

Grade 1 Convincing

3. There is evidence strong enough to support a judgement of a convincing causal relationship. A consistent association has been observed between exposure to a risk factor and the disease or injury under investigation, and chance, bias and confounding can be ruled out with reasonable confidence.

4. Some examples of the types of evidence which would meet this test are as follows:

    1) A consistent finding across the totality of studies, statistically significant relative risks generally above 1.5, no obvious biases or confounding and evidence for biological plausibility. Studies are of high quality, and usually several cohort studies are available.
    2) If there are only case reports or case series, evidence of temporal link and a biomechanical or pathophysiological mechanism, plus (especially for drugs or chemicals) evidence of reversibility or recurrence on re-exposure.

Grade 2 Suggestive

5. There is evidence strong enough to support a judgement of a suggestive causal relationship. A consistent association has been observed between exposure to a risk factor and the disease or injury under investigation, but chance, bias or confounding cannot be ruled out with reasonable confidence.

6. Evidence in this category does not clearly meet the criteria in Grade 1, but consideration of the upgrading features listed below may allow the factor to be assigned to the higher grade.

Grade 3 Limited

7. The evidence is too limited to permit a judgement of a suggestive or convincing causal relationship, but supports a judgement of a possible causal relationship. A generally consistent association has been observed between exposure to a risk factor and the disease or injury under investigation, but the evidence is limited in quality or quantity.

8. Some examples of the types of evidence which would meet this test are as follows:

    1) Where no other relevant studies are available, a finding of a significantly increased relative risk based on only one high quality study, and no obvious biases or confounding.

    2) A finding of significantly increased relative risks, generally in the range of 1.1-1.5, based on several studies that are mostly consistent, but with some evidence of bias or confounding.

    3) If there are only case reports or case series, evidence of temporal link and a biomechanical or pathophysiological mechanism.

Grade 4 Very limited

9. The evidence is too limited to permit a judgement of a possible causal relationship. An association is demonstrated in some studies, but the evidence is inconsistent and studies are limited in quality or quantity. Chance, bias or confounding are likely to account for observed associations.

10. Evidence in this category does not clearly meet the criteria in Grade 3, but consideration of the upgrading features listed below may allow the factor to be assigned to the higher grade.

Grade 5a Inadequate

11. The evidence is so limited that no firm conclusion can be made. The evidence is very limited in amount, or the available studies are of insufficient quality, consistency or statistical power to permit a conclusion regarding the presence or absence of a causal association between exposure and injury or disease, or no data in humans are available.

Grade 5b Evidence suggesting no causal association

12. The evidence is strong enough to support a judgement that a particular risk factor is highly unlikely to have a causal relation to the disease or injury. There are several adequate studies covering the full range of levels of exposure that humans are known to encounter, in which the weight of evidence is consistent in not showing a positive association between exposure to the agent and any studied injury or disease at any observed level of exposure. Bias and confounding can be ruled out with reasonable confidence, and the studies have an adequate length of follow-up. The evidence is robust enough to be unlikely to be modified in the foreseeable future as new evidence accumulates, though a conclusion of “no association” is inevitably limited to the conditions, exposures, and length of observation covered by the available studies.

13. An example of the type of evidence which would meet this test is as follows:

    1) A consistent finding across the totality of studies, relative risks generally in the range of 0.9 to 1.1, no obvious biases or confounding and no plausible biological mechanism. Studies are of high quality, and usually several cohort studies are available.

Upgrading and downgrading features

14. These features may apply for any grade, but may be especially useful where there is most uncertainty about the grading (grades 2 and 4).

Upgrading features

(a) Presence of a biological gradient ('dose-response') in the association.

(b) A large summary effect size (a statistically significant odds ratio or relative risk of 2.0 or more) after appropriate control for confounders.

(c) Evidence from randomised, controlled trials in humans.

(d) Evidence that the effect is reduced if the exposure is reduced or ceased (for example, quitting smoking).

Downgrading feature

- Evidence of a plausible biological mechanism is absent or weak.

Application of grades to decision points

15. The table below summarises the way in which the grading usually translates to a decision in terms of whether or not it suggests a factor for RH or RH and BOP. The final decision about a factor may not match the grading for a number of reasons. These reasons include ambiguity in the evidence, different interpretations of underlying conceptual issues or practical considerations about the SOP in which a factor most appropriately belongs.

Table 1 Application of grades to decision points

Assigned grading	Decision for consideration	
	RH	BoP
Grade 1	Yes	Yes
Grade 2	Yes	Maybe
Grade 3	Yes	No
Grade 4	Maybe	No
Grade 5a	No	No
Grade 5b	No	No

Acknowledgements

16. In documenting these criteria, the RMA gratefully acknowledges that it has drawn upon and adapted grading criteria produced by the Institute of Medicine, the International Agency for Research on Cancer and the World Cancer Research Fund/American Institute for Cancer Research.