Fatigue risk management in obstetric and gynaecological practice

This statement has been developed by a working group of the RANZCOG Women's Health Committee, and reviewed by the Wellbeing Working Group, Trainees Committee. The statement was approved by the Women's Health Committee, approved by the RANZCOG Council and RANZCOG Board.

A list of Women's Health Committee Members can be found in Appendix A.

Disclosure statements have been received from all members of this committee.

Disclaimer This information is intended to provide general advice to practitioners. This information should not be relied on as a substitute for proper assessment with respect to the particular circumstances of each case and the needs of any patient. This document reflects emerging clinical and scientific advances as of the date issued and is subject to change. The document has been prepared having regard to general circumstances.

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Values: The evidence was reviewed by the Women's Health Committee (RANZCOG) and applied to local factors relating to Australia and New Zealand.

Background: This statement was first developed by Women's Health Committee in November 2012 and reviewed in November 2015.

Funding: The development and review of this statement was funded by RANZCOG.

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1. Plain language summary

The provision of obstetric and gynaecological care requires a high level of knowledge, sophisticated procedural skills, sound judgement and complex reasoning. By the very nature of medical care, especially the provision of obstetric care during childbirth, it is a common necessity that the provision of care occurs after hours and for prolonged periods of time. This creates a susceptibility to clinician fatigue which can potentially impact upon patient safety and clinician wellbeing. This statement reviews and highlights the organisational, departmental, and individual responsibilities to mitigate these risks.

This statement has been written to address fatigue risk management across the breadth of the RANZCOG membership, including trainees, diplomates and fellows regardless of their rurality and the jurisdiction(s) in which they work. As such, it is a high-level principle-based policy document which intentionally does not venture into granular recommendations which cannot be applied across this breadth. Therefore, no recommendations are made regarding safe working hour limits or staffing ratios.

The recommendations will also be variably applicable to the breadth of the RANZCOG membership. For instance, the recommendations relating to departmental and organisational responsibilities may be more relevant to trainees and salaried fellows. In contrast, the individual responsibilities may be more relevant to those in private practice or those working in rural or remote areas.

Finally, it is acknowledged that some individuals will have less agency and control over managing their risk of fatigue as a consequence of their position and employment arrangements. If these individuals require support, then this support is provided by RANZCOG and assistance can be sought through existing pathways, including but not limited to, the trainee support unit, trainee supervisors and site accreditation visits.

2. Summary of recommendations

Good Practice Note	
Healthcare facilities have a responsibility under workplace health and safety legislation to provide a safe working environment for workers by elimination and minimisation of the risks, including those posed by fatigue.	
Recommendation 1	**Grade**
Institutional organisation of elective obstetric interventions (such as induction of labour) should be facilitated such that the timing of obstetric input (i.e. birth or operative intervention) occurs at a reasonable time, recognising that prediction can be difficult).	Evidence-based recommendation Level Level II(B)
Recommendation 2	**Grade**
Institutional facilitation of non-elective obstetric and gynaecological procedures should support these occurring during reasonable hours when clinically appropriate.	Consensus-based recommendation
Recommendation 3	**Grade**
Elective gynaecological procedures should be conducted during daylight hours and in situations where surgical lists may need to be extended beyond this time, they should be concluded no later than 2200.	Evidence-based recommendation Level II(B)
Recommendation 4	**Grade**
Departments, hospitals and private on-call groups should have a contingency plan to address the short-term consequences of clinicians being unavailable for clinical duties due to fatigue.	Consensus-based recommendation
Recommendation 5	**Grade**
Hospitals should monitor risk factors, levels of fatigue and its consequences.	Consensus-based recommendation

Recommendation 6	Grade
Clinicians who are involved in shift work or on-call work should be aware that clinical performance may be affected by increasing fatigue due to altered sleep routines.	Evidence-based recommendation Level I(A)
Recommendation 7	**Grade**
Clinicians who are sleep deprived and suffering from fatigue should be prepared to call for assistance.	Consensus-based recommendation
Recommendation 8	**Grade**
Clinicians should be open to collegial feedback on their state of fatigue, wellbeing and performance since sleep deprived individuals tend to underestimate fatigue-related impairments.	Evidence-based recommendation Level II(B)
Recommendation 9	**Grade**
Clinicians should be mindful of the aspects of their personal lives which contribute to fatigue and the impact this may have upon their work performance. Where possible, they should take care that modifiable circumstances of their personal lives do not contribute to fatigue at work.	Consensus-based recommendation
Recommendation 10	**Grade**
Clinicians have a professional responsibility to avoid clinical activities if fatigue, physical or mental health, or stress level, may interfere with patient care.	Consensus-based recommendation
Recommendation 11	**Grade**
Clinicians who participate in after-hours work and have health issues or chronic sleep problems should ensure they have support from their GP and advice regarding their suitability to safely cope with sleep deprivation.	Evidence-based recommendation Level II(B)

3. Background

Sleep is important and necessary to ensure the physical, emotional, and mental health of all humans. The detrimental effects of acute and chronic sleep deprivation on physical and cognitive performance are well documented.[1]

Adults require, on average, 7-9 hours of sleep each night.[2] Fatigue will occur as a result of sleep debt which is cumulative and needs to be recovered over several sleep cycles. The only way to recover sleep debt is by replenishing it. The quality and duration of sleep which is possible depends greatly on the timing at which sleep occurs (better sleep is always obtained during our biological night). Disruptions to the normal sleep pattern, reduced hours of sleep and increased intervals between sleep all contribute to fatigue and impaired well-being and ability to function optimally. Other factors such as sustained long hours of work, irregular shift work, poor sleep recovery, ageing and pregnancy may also contribute to fatigue.

In sleep deprived individuals cognitive skills are more affected than psychomotor skills, although in tasks that require both (such as most surgical skills) sleep deprivation also significantly impacts psychomotor performance. [1] It has also been demonstrated to impair vigilance and accuracy of response.[3] Decreased performance of motor and cognitive functions in a fatigued clinician may result in impaired judgement, late and inadequate responses to clinical changes, poor communication/empathy and increased errors.[4-7]

In the interests of patient safety, it is important that clinicians understand how to identify fatigue in themselves and others and know their responsibilities with respect to working while fatigued. Employers must be aware of fatigue as an occupational health and safety issue and manage this risk to support and ensure safety of staff and patients and, in addition, to comply with occupational health and safety legislation in their jurisdiction(s).

Good Practice Note	
Healthcare facilities have a responsibility under workplace health and safety legislation to provide a safe working environment for workers by elimination and minimisation of the risks, including those posed by fatigue	

4. Departmental and organisation responsibilities

4.1 What are the departmental and organisation responsibilities for providing a work environment that is safe for clinicians and patients?

The employment of salaried medical officers is governed by the respective awards and agreements throughout the states and territories of Australia and in New Zealand. These documents have provisions regarding the rostering of medical staff such that safe working hours are maintained thereby managing the risk of fatigue. Similarly, there are also standards concerning staffing and safe working hours within the *Accreditation Standards and Guidelines for Hospitals in the FRANZCOG Training Program*. [8]

The responsibilities of healthcare facilities to provide a safe working environment for workers are clearly elucidated by the relevant Acts in Australia and New Zealand. These Acts legislate the requirement to provide a safe working environment for workers by the elimination of risks to health and safety and to minimise those risks if they cannot be eliminated.[9, 10] This includes the risks to health and safety posed by fatigue.

This responsibility includes the creation of an institutional culture where fatigue and the risks associated with fatigue are recognised and appreciated by all levels of the organisational hierarchy. All facilities and departments should have an environment where individuals are supported to report and act on fatigue.

With regards to clinical activity, elective, planned and unplanned procedures should be facilitated such that they can be completed within reasonable hours as well as enforcing restrictions on the performance of non-urgent procedures outside reasonable hours. This should include planning labour ward activities such as induction of labour to occur at such times that the timing of obstetric input (such as birth or operative intervention) is likely to occur at a reasonable time forasmuch as this can be controlled.

Departments should consider measures to limit fatigue by facilitating timely departure of staff following their completed rostered hours. Examples of measures to achieve this are an efficient clinical handover within rostered hours rather than after rostered hours and the removal of expectations to attend educational or administrative activities after the conclusion of rostered night shifts. (See: RANZCOG statement: WPI-19 Clinical Handover.)

Recommendation 1	Grade
Institutional organisation of elective obstetric interventions (such as induction of labour) should be facilitated such that the timing of obstetric input (i.e. birth or operative intervention) occurs at a reasonable time, recognising that prediction can be difficult).	Evidence-based recommendation Level Level II(B)
Recommendation 2	**Grade**
Institutional facilitation of non-elective obstetric and gynaecological procedures should support these occurring during reasonable hours when clinically appropriate.	Consensus-based recommendation

Recommendation 3	Grade
Elective gynaecological procedures should be conducted during daylight hours and in situations where surgical lists may need to be extended beyond this time, they should be concluded no later than 2200.	Evidence-based recommendation Level II(B)

The safe work environment needs to include staffing levels such that all staff can take regular recreation (annual) leave and rostering with sufficient notice to allow planning for fatigue recovery and leisure activities.

Contingencies need to exist for fatigue relief. Organisations, departments and private on-call groups should have a management plan to address the short-term consequences of clinicians being unavailable for clinical duties because of fatigue. This could include an acute relief plan but, for departments and hospitals, this should not be at the cost of clinical support time.

Recommendation 4	Grade
Departments, hospitals and private on-call groups should have a contingency plan to address the short-term consequences of clinicians being unavailable for clinical duties due to fatigue.	Consensus-based recommendation

4.2 How can departments and organisations mitigate the risks of fatigue risk?

Hospitals should establish programs and provide resources to mitigate the risk associated with fatigue. These may include:

- Provision of resources and training to enable individuals and those around them to recognise the signs and symptoms of fatigue and respond accordingly.
- Provision of rest facilities such as quiet, dark private space with sleeping facilities that can be used during and/or after night shift or on-call duties. These should be proximally located to the high acuity clinical areas such as labour ward.
- Safe commuting options that are advertised to staff and easily accessible. Departmental budgeting should allow for this accordingly.

4.3 How can fatigue and the consequences of fatigue be monitored?

Hospitals and departments should monitor risk factors, levels of fatigue and its consequences. This may include shift lengths and patterns, overtime, and critical incidents. Un-rostered overtime should be monitored and documented. Critical incident reporting systems should also include metrics by which data on fatigue can be collected and analysed. Such metrics could include time on shift, time of day, time since waking and amount of sleep in previous 24 hours. This must be done in a safe and confidential manner and used to inform system improvements.

Recommendation 5	Grade
Hospitals should monitor risk factors, levels of fatigue and its consequences.	Consensus-based recommendation

5. Individual responsibilities

5.1 Awareness of the risks associated with fatigue and sleep deprivation

Sleep deprivation has been associated with a global impairment of functioning over multiple domains.

The impact of sleep deprivation on performance is very similar to that of alcohol.[11, 12] An Australian Transport study demonstrated performance impairments after 17 to 19 hrs without sleep at the level of produced by 0.05% blood alcohol concentration (BAC). After longer periods without sleep, performance reached levels equivalent to the maximum alcohol dose given to subjects (0.1%BAC).[13]

Importantly, sleep deprivation appears to impact functioning differently depending upon the complexity and type of the task. Tasks involving monotony and passive concentration are particularly vulnerable to the effects of sleep deprivation.[13] A 1991 review looking at the impact of sleep deprivation on junior doctors' performance concluded that while junior doctors can compensate for sleep loss in a crises or other novel situations, they were more prone to errors on routine, repetitive tasks and tasks that required sustained vigilance.[14]

Pure psychomotor skills are generally preserved in the sleep deprived but skills requiring both cognitive skills and dexterity are vulnerable. Several studies looking at simulated surgical performance in sleep deprived junior doctors documented a falloff in speed and accuracy[15], and an increase in errors and time to complete tasks.[16] Within post night-time cases there was a trend towards more complications when the surgeon had less than 6 hours sleep.[17]

Stress in addition to fatigue further impairs technical skills.[18] Tasks that require complex problem solving and interpretive skills such as ECGs and radiological images are particularly prone to error, particularly false normal interpretations.[19] Evidence from a prospective observational study in large tertiary obstetric unit in Ireland demonstrated a larger percentage of infants with a cord pH of 7.1 were born between midnight and 8 am suggesting interpretation of CTGs and other clinical signs of fetal compromise may be impaired at night.[20]

The relationship between age and risks from fatigue is complex. In laboratory type conditions older subjects appear to be less impacted by sleep deprivation than younger subjects.[21, 22] However, in real world situations, older shift workers show a greater impairment at night compared to their younger colleagues and are more affected by longer spans of successive night shifts.[23] In two large retrospective North America studies patient outcomes following daytime surgery by senior doctors who had sleep disruption the previous night compared to those who had not.[17, 24] No differences in outcome were found even when the data was stratified for physician's age, or type of procedure.[24] Comparisons may be confounded by baseline sleep deprivation. Detailed evidence on sleep deprivation and the older doctors is lacking.

Recommendation 6	Grade
Clinicians who are involved in shift work or on-call work should be aware that clinical performance may be affected by increasing fatigue due to altered sleep routines.	Evidence-based recommendation Level 1(A)

Evidence suggests that clinicians tend to underestimate fatigue-related impairments when sleep deprived or functioning under adverse circadian phase.[25] Education regarding fatigue, the impact of sleep deprivation and an awareness of their own work patterns should allow greater recognition of fatigue related impairment. This will facilitate clinicians calling for assistance when fatigued and recognising fatigue in colleagues and offering feedback when necessary.

Recommendation 7	Grade
Clinicians who are sleep deprived and suffering from fatigue should be prepared to call for assistance.	Consensus-based recommendation
Recommendation 8	**Grade**
Clinicians should be open to collegial feedback on their state of fatigue, wellbeing and performance since sleep deprived individuals tend to underestimate fatigue-related impairments.	Evidence-based recommendation Level II(B)

5.2 Planning

Clinicians have a professional responsibility to manage their professional and home lives in such a way that the effects of acute fatigue on their wellbeing is minimised and patient safety preserved.[26] This includes a moral responsibility to abdicate from clinical activities in several scenarios including fatigue, stress and ill-health.[26]

Doctors who are well rested are better able to deal with the demands of after-hours call and acute sleep deprivation. Evidence from the impact of reduced working hours for junior doctors suggests that this has had a beneficial effect on doctors' wellbeing.[27-31]

To minimise the impact of sleep deprivation clinicians should consider organising their lives where possible, such that they can optimise their physical and psychological wellbeing over the longer term. These actions should include regular leave planning to ensure breaks from their professional work, quarantining time for recreational activities outside of work, and baseline good sleep hygiene practice to optimise rest on nights when not on call.

At a more pragmatic level adequate fatigue planning should also involve developing personal contingencies for situations where clinical responsibilities cannot be safely met due to fatigue. While some of this contingency planning will occur at a departmental / organisation level, in some settings it may also depend upon individual networks and goodwill. This should also include avoidance of fatigue by ensuring afterhours responsibilities when on multiple on-call rosters, do not clash and allow adequate time for sleep catch-up.

Recommendation 9	Grade
Clinicians should be mindful of the aspects of their personal lives which contribute to fatigue and the impact this may have upon their work performance. Where possible, they should take care that modifiable circumstances of their personal lives do not contribute to fatigue at work.	Consensus-based recommendation
Recommendation 10	**Grade**
Clinicians have a professional responsibility to avoid clinical activities if fatigue, physical or mental health, or stress level, may interfere with patient care.	Consensus-based recommendation

5.3 Risk mitigation

5.3.1 Personal health and wellbeing

Sleep deprivation negatively affects mood more than either cognitive or motor performance.[32] This provides a risk to clinician's well-being, especially to those with other stressful situations in their professional or personal lives. Underlying health problems, mental health issues, poor baseline sleeping, and professional or personal stress will further exacerbate the risks associated with work related sleep deprivation and contribute to a reduced sense of wellbeing. Ideally before a period of known sleep deprivation a doctor will be well rested.

Recommendation 11	Grade
Clinicians who participate in after-hours work and have health issues or chronic sleep problems should ensure they have support from their GP and advice regarding their suitability to safely cope with sleep deprivation.	Evidence-based recommendation Level II(B)

5.3.2 Clinical work strategies

Doctors should avoid non-urgent surgical and other procedures after 10pm when they are likely to be subject to fatigue. Tasks that are less demanding, less engaging, and repetitive are more likely to be subject to error.[12]

5.3.3 Sleep strategies

Some common-sense strategies can reduce the effects of fatigue. These may include measures such as a 60 to 90-minute afternoon sleep prior to night duty, taking a 20 to 30-minute nap during the shift, eating proper meals and sleeping as soon as possible after the shift. Avoiding caffeine consumption prior to a post shift sleep may also aid recovery.

During the period of call taking opportunities to sleep when they are offered appears to provide benefit. Strategic napping, defined as short-duration naps intentionally occurring during overnight shifts, have been extensively studied. Short naps do provide some improvement in performance.[33, 34] Longer duration naps are associated with impaired alertness immediately following waking up due to sleep inertia associated with the progression to deep sleep cycles.[35] However, naps do not restore performance to baseline levels unless they were uninterrupted for four to six hours.[21]

5.3.4 Training and education

While probably helpful the evidence supporting benefit from an educational approach to preventing fatigue is limited.

A 2018 literature review and meta-analysis looked at the benefits of fatigue training on fatigue-related outcomes for Emergency Medical Services (EMS) personnel and similar shift worker groups. Interventions reviewed included: educational sessions on the physiology of sleep and impact of sleep deprivation; alertness management training; sleep hygiene training; general wellness education; mindfulness training; cognitive behaviour therapy; and driver fatigue training. Outcomes of interest included personnel safety, patient safety, personnel performance, acute fatigue, indicators of sleep duration and quality, indicators of long-term health (e.g., cardiovascular disease), and burnout/stress. The reviewers concluded that fatigue training has improved patient safety, personal safety, and ratings of acute fatigue and reduced stress and burnout. A meta-analysis of the five studies of sufficient quality to be included showed improvement in sleep quality. However, the overall quality of evidence was judged low or very low due to lack of randomised clinical trials in operational settings. There was considerable heterogeneity among the included studies and the optimal fatigue-training program content and duration is unclear.[36]

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7. Links to other College statements

- Evidence-based Medicine, Obstetrics and Gynaecology (C-Gen 15)
- Credentialing in Obstetrics and Gynaecology (WPI 23)
- Clinical Handover (WPI-19)
- RANZCOG Accreditation Standards and Guidelines for Hospitals in the FRANZCOG Training Program (v 1.7, November 2021) which outlines the process and criteria for site accreditation
- Wellbeing Charter for Doctors (2021)developed between RANZCOG and the Royal Australasian College of Surgeons (RACS), Australasian College for Emergency Medicine (ACEM), and Australian and New Zealand College of Anaesthetists (ANZCA) which recognises doctors' wellbeing as a shared responsibility between individuals and system partners.

Appendices

Appendix A: Women's Health Committee Membership

Name	Position on Committee
Dr Scott White	Chair
Dr Gillian Gibson	Deputy Chair, Gynaecology
Dr Anna Clare	Deputy Chair, Obstetrics
Associate Professor Amanda Henry	Member and Councillor
Dr Samantha Scherman	Member and Councillor
Dr Marilla Druitt	Member and Councillor
Dr Frank O'Keeffe	Member and Councillor
Dr Kasia Siwicki	Member and Councillor
Dr Jessica Caudwell-Hall	Member and Councillor
Dr Sue Belgrave	Member and Councillor
Dr Marilyn Clarke	Aboriginal and Torres Strait Islander Representative
Professor Kirsten Black	SRHSIG Chair
Dr Nisha Khot	Member and SIMG Representative
Dr Judith Gardiner	Diplomate Representative
Dr Angela Brown	Midwifery Representative, Australia
Ms Adrienne Priday	Midwifery Representative, New Zealand
Ms Leigh Toomey	Community Representative
Dr Rania Abdou	Trainee Representative
Dr Philip Suisted	Māori Representative
Prof Caroline De Costa	Co-opted member (ANZJOG member)
Dr Steve Resnick	Co-opted member

Appendix B: Contributing Authors

The Women's Health Committee acknowledges the significant contribution of Dr Will Milford (Chair), Dr Susan Fleming, Dr Sophie Doherty and members of the Fatigue Working Party in reviewing and updating the statement.

Appendix C: Overview of the development and review process for this statement

i. Steps in developing and updating this statement

This statement was developed in 2012 and reviewed in November 2015. In 2021 the Women's Health Committee appointed a working group to update the statement. The Women's Health Committee carried out the following steps in reviewing this statement:

- Declarations of interest were sought from all members prior to reviewing this statement.
- Structured clinical questions were developed and agreed upon.
- An updated literature search to answer the clinical questions was undertaken.
- At the November 2021 Women's Health Committee meeting, the existing consensus-based recommendations were reviewed and updated (where appropriate) based on the available body of evidence and clinical expertise. Recommendations were graded as set out below in Appendix C part iii).

ii. Declaration of interest process and management

- Declaring interests is essential in order to prevent any potential conflict between the private interests of members, and their duties as part of the Women's Health Committee.
- A declaration of interest form specific to guidelines and statements was developed by RANZCOG and approved by the RANZCOG Board in September 2012. The Women's Health Committee members were required to declare their relevant interests in writing on this form prior to participating in the review of this statement.
- Members were required to update their information as soon as they become aware of any changes to their interests and there was also a standing agenda item at each meeting where declarations of interest were called for and recorded as part of the meeting minutes.
- There were no significant real or perceived conflicts of interest that required management during the process of updating this statement.

iii. Grading of recommendations

Each recommendation in this College statement is given an overall grade as per the table below, based on the National Health and Medical Research Council (NHMRC) Levels of Evidence and Grades of Recommendations for Developers of Guidelines. Where no robust evidence was available but there was sufficient consensus within the Women's Health Committee, consensus-based recommendations were developed or existing ones updated and are identifiable as such. Consensus-based recommendations were agreed to by the entire committee. Good Practice Notes are highlighted throughout and provide practical guidance to facilitate implementation. These were also developed through consensus of the entire committee.

Recommendation category		Description
Evidence-based	A	Body of evidence can be trusted to guide practice
	B	Body of evidence can be trusted to guide practice in most situations
	C	Body of evidence provides some support for recommendation(s) but care should be taken in its application
	D	The body of evidence is weak and the recommendation must be applied with caution
Consensus-based		Recommendation based on clinical opinion and expertise as insufficient evidence available
Good Practice Note		Practical advice and information based on clinical opinion and expertise

Appendix D: Full Disclaimer

Purpose

This Statement has been developed to provide general advice to practitioners about women's health issues concerning Fatigue risk management and should not be relied on as a substitute for proper assessment with respect to the particular circumstances of each case and the needs of any person. It is the responsibility of each practitioner to have regard to the particular circumstances of each case. Clinical management should be responsive to the needs of the individual person with fatigue risk management and the particular circumstances of each case.

Quality of information

The information available in Fatigue risk management in obstetric and gynaecological practice is intended as a guide and provided for information purposes only. The information is based on the Australian/New Zealand context using the best available evidence and information at the time of preparation. While the Royal Australian and New Zealand College of Obstetricians and Gynaecologists (RANZCOG) had endeavoured to ensure that information is accurate and current at the time of preparation, it takes no responsibility for matters arising from changed circumstances or information or material that may have become subsequently available. The use of this information is entirely at your own risk and responsibility.

For the avoidance of doubt, the materials were not developed for use by patients, and patients must seek medical advice in relation to any treatment. The material includes the views or recommendations of third parties and does not necessarily reflect the views of RANZCOG or indicate a commitment to a particular course of action.

Third-party sites

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Version	Date of Version	Pages revised / Brief Explanation of Revision
v1.1	Nov / 2012	RANZCOG Board
v2.1	Nov / 2015	RANZCOG Board
V3.1	July / 2022	Working party of Women's Health Committee (11th Council) consultation with Wellbeing Working Group, members of the RANZCOG Trainee Committee, before review by Women's Health Committee

Policy Version:	Version v3.1
Policy Owner:	Wellbeing Working Group
Policy Approved by:	Women's Health Committee/RANZCOG Council/Board
Review of Policy:	March / 2027