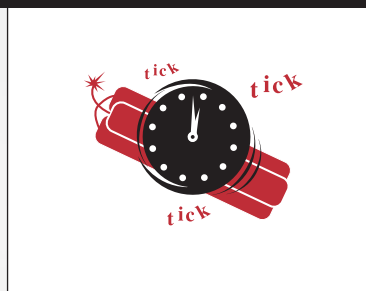


Risk Assessment of Junior Doctor Rosters

Prepared by the Australian Medical Association Limited – July 2001



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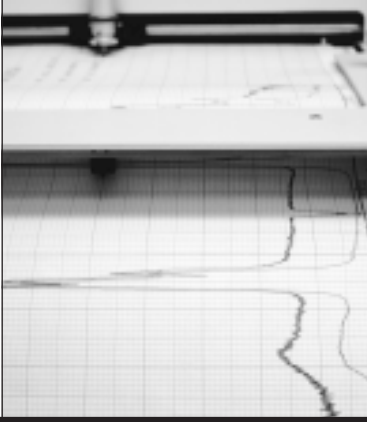
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AMA Safe Hours Campaign



Executive Summary

The *National Code of Practice – Hours of Work, Shiftwork and Rostering for Hospital Doctors* was developed following extensive consultation and communication within the medical and hospital sector. The AMA adopted the Code in 1999 following research, case studies and investigations into the impact of changes in working hours on systems of work and medical training in the context of the contemporary medical workplace. The Code identifies a range of rostering and work practice variables that contribute to fatigue and performance impairment associated with extended hours and intensive work rosters. The Code identifies three broad levels of risk – lower, significant and higher.

During 2000/2001 the AMA conducted detailed risk assessment audits of 417 junior doctors' work schedules and has classified each doctor's work schedule into one of the three risk categories in the Code. The data indicates that 24% of respondents fell into the higher risk category during the audit period. Total hours for some higher risk doctors exceeded 100 per week, with one doctor reporting a period of 63 hours of continuous hospital duty.

The data indicates that, while total weekly work hours are important, a number of other variables contribute to the level of risk associated with a roster. These include whether the work was undertaken at night, if shifts exceed 14 hours, the extent of on call commitments, access to work breaks and the long term work pattern.

The characteristics of the risk assessment audit data collected by the AMA are broadly consistent with the trends identified in other much larger data collections covering the medical workforce and highlight the systemic nature of unsafe work and rostering practices for junior doctors across the hospital system.

Clinical studies have demonstrated that the performance impairment of an individual after 18 hours of sustained wakefulness is equivalent to that at a blood alcohol concentration greater than 0.05%. The risk assessment data collected by the AMA indicates the performance of doctors in the higher risk category and many in the significant risk category would, at times, be impaired by fatigue to the extent of impacting on the health of the doctor and safety of the medical care provided to the patient. If this performance impairment were the result of alcohol intoxication, prevailing hospital policies would prevent these doctors from working.

Many hospitals have taken measures to review their medical rostering and work practices in the light of the AMA's Safe Hours campaign. Nevertheless, the data indicates all stakeholders in the hospital and medical sector will need to do significantly more to address the issue of unsafe rostering practices for junior doctors if the identified risks are to be minimised.

Introduction

The current work and rostering practices which give rise to extended hours for hospital doctors are deeply entrenched in the hospital and medical culture. These practices have survived partly because of the temporary nature of the resident medical officer years, during which formal training is undertaken in a hospital speciality or for general practice. These practices have, however, come under increasing challenge.

Over half of Australia's medical graduates each year are female and the medical graduates of today share different expectations of work, leisure, social and family life to those of past generations. These expectations broadly reflect changes in community values. The sheer volume of knowledge which young doctors are expected to absorb and the growth in the number and complexity of clinical interventions now available to the profession have also changed the face of hospital medical practice and training. These factors, coupled with the duty of care that hospitals owe their employees under both common law and occupational health and safety legislation enacted in the past two decades, make the need for change more pressing than in the past.

The AMA Safe Hours Campaign has sought to initiate the process of change by undertaking research essential for establishing the basis for reforms to current work practices and

for the development of standards to assist hospitals and the profession in meeting their occupational health and patient safety obligations.

The *National Code of Practice – Hours of Work, Shiftwork and Rostering for Hospital Doctors* is the product of consultation and communication with the medical and hospital sector and was adopted by the Federal Council of the AMA in March 1999. The adoption of the Code followed an extensive process of research, case studies and investigations into the impact of changes in working hours on systems of work and medical training in the context of the contemporary medical workplace.

The second phase of the Safe Hours Campaign, which commenced in 2000, has focussed specifically on the implementation of the National Code. In addition to a program of consultation with hospitals and initiatives aimed at seeking formal endorsement of the Code by accreditation agencies in the health, hospital and medical sector, the AMA has undertaken detailed risk assessments of the rosters of junior doctors throughout the public hospital system. This paper reports on the data collected through the risk assessment audit process in New South Wales, Queensland, South Australia, Western Australia, Victoria and Tasmania during 2000/2001.

Risk Assessment Methodology

A key component of the *National Code of Practice – Hours of Work, Shiftwork and Rostering for Hospital Doctors* is the risk assessment guide. The guide identifies a range of rostering and work practice variables that contribute to fatigue and performance impairment associated with extended hours and intensive work rosters. The Code identifies three broad levels of risk – lower, significant and higher.

The AMA has developed a risk assessment audit form that seeks to capture data on the patterns of work, sleep and non-work of doctors over a seven-day period. The audit form also seeks information about work patterns in the week before the audit and work patterns rostered for the week following the seven-day audit period. An extract from the audit form is at Attachment A.

Completed audit forms were returned by doctors to the AMA, which risk rated the work schedule into one of the three risk categories identified in the Code using a simple scoring system. The scoring system provides for points in relation to hours of

work at night to be weighted to reflect the greater fatigue associated with night work, while periods of sleep at night are also weighted to reflect the greater recovery that sleep during the night period provides. Points are also added or subtracted for shifts that exceed 14 hours per day, where no work breaks are taken during shifts, for on-call commitments, where the doctor has no full day off in a week and where there is less than a continuous ten hour break between shifts. Points are also allocated on the basis of work schedules in the previous and forthcoming week. A copy of the score sheet is at Attachment B.

The AMA's risk assessment scoring methodology has been assessed against other risk rating systems for rosters and work hours. Work rosters rated higher, significant or lower using the AMA methodology also attract a corresponding rating on other risk assessment systems. While the AMA risk assessment audit methodology does not provide a precise measurement of fatigue and performance impairment, it does provide a useful indicator of the level of risk associated with specific work schedules.

Risk Assessment Data

This report covers risk assessment data collected from junior doctors in New South Wales, Queensland, Tasmania, Western Australia, Victoria and South Australia during 2000/2001. The risk assessment audit form and an invitation to complete the form and return it to the AMA were forwarded to doctors by direct mail.

Respondents were broadly representative of the population of junior doctors in Australia, with the job classifications and gender of respondents in the sample being proportional to that of the larger population (Table I).

Table I:

Respondents compared to total junior doctor population by classification and gender.

	Intern/RMO		Registrars		Other		Total	
	Respondents	All junior doctors	Respondents	All junior doctors	Respondents	All junior doctors	Respondents	All junior doctors
Female	51%	41%	43%	41%	18%	38%	46%	41%
Male	47%	59%	56%	59%	61%	62%	51%	59%
Unknown	2%	0%	1%	0%	21%	0%	3%	0%
Total	100%	100%	100%	100%	100%	100%	100%	100%

Source: Data on the junior doctor population in Australia was extracted from Masterlink, © AMPCo, June 2001.

Table II sets out the percentage of respondents from the major clinical disciplines.

Table II:

Respondents compared to total junior doctor population by clinical discipline.

Clinical discipline	% of respondents	% for all junior doctors
Surgery	20%	19%
Medicine/Physicians	19%	20%
Emergency Medicine	13%	14%
Obstetrics & Gynaecology	7%	6%
Anaesthetics	7%	6%
Other	34%	35%
Total	100%	100%

Source: Data on the junior doctor population in Australia was extracted from Masterlink, © AMPCo, June 2001.

Twenty percent of respondents worked in surgical departments and 19% worked in departments of medicine. The clinical disciplines of emergency medicine, obstetrics and gynaecology and anaesthetics were also featured amongst the respondents. Thirty-four percent of respondents worked in a range of other clinical disciplines and departments. Compared to data on the total junior doctor population, most clinical disciplines in the sample were proportionately represented.

Table III sets out the broad characteristics of the respondents, with a total of 417 doctors completing risk assessments, of which 56% were Interns or RMOs, 36% Registrars and 8% in other classifications.

Table III:

Respondents by classification.

Classification	No. of respondents	% of respondents	% of higher risk category
Intern/RMO	233	56%	54%
Registrars	151	36%	40%
Others	33	8%	6%
Total	417	100%	100%

Table III also indicates that approximately 54% of the higher risk category were made up of Interns and RMOs and that Registrars were over represented in the higher risk category, at 40% compared to 36% of total respondents.

Table IV:

Respondents by classification and risk category.

Risk category	All respondents	Intern/RMO	Registrars	Other
Lower	22%	20%	25%	24%
Significant	54%	57%	48%	58%
Higher	24%	23%	27%	18%
Total	100%	100%	100%	100%

Table IV sets out the classification group of the junior doctors by risk category. Twenty-two percent of all respondents fell in the lower category, 54% in the significant risk category and 24% in the higher risk category.

Twenty-seven percent of Registrars fell in the higher risk category compared to 24% of respondents as a whole. The risk category data, when broken down on a state by state basis, broadly reflects the pattern identified in Table IV.

Table V indicates that doctors working in surgical departments and obstetrics and gynaecology were disproportionately represented in the higher risk category.

Table V:

Clinical discipline by risk category.

Clinical discipline	Lower	Significant	Higher	Total
Surgery	14%	51%	35%	100%
Medicine/Physicians	14%	65%	21%	100%
Emergency Medicine	41%	45%	14%	100%
Obstetrics & Gynaecology	7%	52%	41%	100%
Anaesthetics	32%	54%	14%	100%
Other	25%	53%	22%	100%
All respondents	22%	54%	24%	100%

Thirty-five percent of doctors working in surgical departments and 41% working in obstetrics and gynaecology fell into the higher risk category compared to 24% for respondents as a whole.

Table VI indicates that there was some overlap in the range of total hours worked between the lower, significant and higher risk groups of doctors.

Table VI:

Range of total hours worked by risk category – seven day audit period.

Risk category	Range (hours)	Average (hours)	Median (hours)
Lower	10-74	45	45
Significant	34-86	60	60
Higher	45-106	79	80

The overlap of the ranges suggests that other variables, along with the total number of hours worked in a week, are likely to have an impact on the final risk rating of the work schedule. These variables include whether the work was performed in the day or at night, the frequency of on-call commitments, access to rest breaks and the other variables identified in the risk assessment guide of the Code as contributing to the risk associated with specific rostering practices. A copy of the risk assessment guide contained in the Code is at Attachment C.

Table VII indicates that among the higher risk group, 63 hours was identified as the longest continuous period of work carried out by a doctor.

Table VII:

Longest continuous period of work by risk category – seven day audit period.

Risk category	Range (hours)	Average (hours)	Median (hours)
Lower	5-21	11	11
Significant	5-24	13	14
Higher	7-63	16	14

In the lower risk group the longest continuous period of work was 21 hours, with 24 hours being the maximum continuous period of work for doctors in the significant risk group.

Table VIII indicates that 81% of doctors in the higher risk group had no days free of work during the seven day audit period. Ninety-one percent of the lower risk group had at least one day off in the week, with 74% of the lower risk group having two or more days off.

Table VIII:

Full days free of work during the seven day audit period by risk category.

Risk Category	Days free of work		
	None	One	Two or more
Lower	9%	17%	74%
Significant	32%	39%	29%
Higher	81%	11%	8%

Thirty-two percent of doctors in the significant risk group had no day free of work during the audit week.

Table IX indicates that 31% of doctors in the higher risk group had three or more days of on-call commitments during the seven day audit period.

Table IX:

Days on-call during the seven day audit period by risk category.

Risk Category	Days on-call		
	None	One or two	Three or more
Lower	70%	25%	5%
Significant	52%	30%	18%
Higher	50%	19%	31%

Only 5% of the lower risk group had three or more days on-call during the audit period, with 70% of the lower risk group not on-call for any day during the audit period.

Table X indicates that 49% of respondents in the lower risk category had a meal break every day in the seven-day audit period compared to 31% in the higher risk category. Forty four percent of respondents in the higher risk category did not have a meal break on three or more days during the audit period.

Table X:

Days without a meal break by risk category during the seven day audit period.

Risk Category	Days without a meal break		
	None	One or two	Three or more
Lower	49%	19%	32%
Significant	30%	26%	44%
Higher	31%	25%	44%

When work hours during the preceding and forthcoming week are examined, the patterns identified during the audit period appear to be repeated.

Table XI:

Hours worked last week, the seven-day audit period and rostered next week.

Risk category	Last week		Seven day period		Next week	
	Range	Median	Range	Median	Range	Median
Lower	0-77	46	10-74	45	0-70	41
Significant	0-119	52	34-86	60	0-86	46
Higher	0-123	65	45-106	80	0-86	47

Table XI indicates that the range of total hours worked by doctors in the higher risk group in the week before the audit period extended from 0 to 123 hours and the hours rostered for the week following the audit period extended to 86 hours. Doctors in the lower risk group had a similar range and median total work hours in the preceding and forthcoming week to that identified in the audit period. The data suggests that the work schedules identified in the audit period form part of normal and ongoing rostering practice for all risk groups.

Significance of Data

The characteristics of the risk assessment data outlined above are broadly consistent with the trends identified in other data collections covering the medical workforce.

Data from the Australian Institute of Health and Welfare publication Medical Labour Force 1998 indicates that Registrars are more likely to work longer hours than junior doctors as a whole and that among the specialist disciplines, surgeons report the highest incidence of working weeks in excess of 80 hours.

The proportion of doctors in the lower, significant and higher risk categories may be broadly aligned with the AIHW data on junior doctors in the working hours categories of less than 50 hours, 50 to 64 hours and 65 hours and over, respectively. The AIHW data, however, has a comparatively higher proportion in the lower hours category (37%) and less (16%) in the higher hours group.

The risk assessment data also confirms the findings of a case study of 750 junior doctors commissioned by the AMA and conducted by Coopers and Lybrand in 1998. That study found that approximately 40% of junior doctors worked in excess of 60 hours per week, 15% worked in excess of 70 hours and 5% worked over 80 hours per week. Junior doctors working as Registrars were found to be working longer hours than junior doctors as a whole and the majority of excess hours worked by junior doctors were routinely rostered and not the result of medical emergencies. Doctors working in surgical and obstetrics and gynaecology departments were also found more likely to be working long hours.

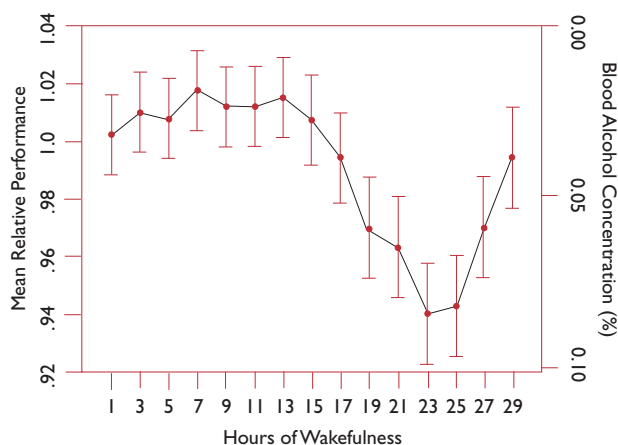
While the respondents to the AMA risk assessment process were self selected, the risk assessment data sits neatly within the broader parameters and trends identified in much larger data sets.

Fatigue and Performance Impairment

A study conducted in 1998 by the Centre of Sleep Research in South Australia entitled; "The Performance Impairment Associated with Sustained Wakefulness and Alcohol Concentration" provides a useful backdrop against which to review the risk assessment data.

Figure 1:

Performance measured against hours of wakefulness and blood alcohol concentration.



Source: Prof Drew Dawson & Kathryn Reid – Centre for Sleep Research, Adelaide 1997

In the study 40 subjects gave informed consent to participate in each of two counter-balanced conditions. In one, subjects were kept awake for 28 hours and cognitive psychomotor performance was measured. In the second, subjects consumed 10 grams of alcohol at 30-minute intervals from 8am until their mean blood alcohol concentration reached 0.10%. In each session cognitive psychomotor performance was measured using an unpredictable tracking task at half hourly intervals from the start of the session. Analysis indicated that performance decreased significantly in both the alcohol and sustained wakefulness conditions.

Moreover, when equating the performance impairment in both conditions, as set out in Figure 1, the data indicates that at between 18 and 27 hours of sustained wakefulness, performance decreased to that at a blood alcohol concentration greater than 0.05%. This study suggests that even relatively short periods of sustained wakefulness produce performance impairment equivalent to or greater than is currently acceptable in relation to driving while under the influence of alcohol. Numerous other studies of fatigue and performance support the findings of the above study.

A review of the specific rostering and work schedule characteristics of individual doctors in the higher risk category and a considerable number of doctors in the significant category, suggests these doctors are working at levels of fatigue and performance impairment which would put their health and patient safety at risk.



Systemic Causes

There is a growing body of evidence from doctors and hospital administrators that many hospitals have taken measures to review their rostering and work practices in the light of the Safe Hours campaign. The transition to “safe hours” has commenced in the public hospital system and the AMA has made particular efforts to accommodate cultural and institutional factors in the change process. However, the risk assessment data, viewed in the context of studies on fatigue and human performance, confirms the matter of excessive work hours by doctors goes beyond the profession and is a quality of care and patient safety issue.

The data confirms:

- The continuing and systemic nature of unsafe work and rostering practices for junior doctors in all classification groups, across the hospital system throughout Australia and across clinical departments within hospitals.
- While total work hours are important, a number of other variables contribute to the level of risk associated with a work roster.
- Excessive work hours of junior doctors appear to be a result of poor and deliberate work and management practices and not the result of emergencies.
- The performance of doctors in the higher risk group and many in the significant risk group is, at times, likely to be impaired by fatigue to the extent of impacting on the health of the doctor and safety of the medical care provided to the patient.
- Doctors working in surgical and obstetrics and gynaecology departments are disproportionately represented in the higher risk category.
- Doctors in the higher risk category typically work 79 hours per week, work 16+ hour shifts, have few if any days off work during the week, are on-call more often and often miss meal breaks while at work.
- More could be done by hospitals, medical education bodies and the profession to address the safe hours issue through revised work and rostering practices, job redesign, revised training practices and the improved utilisation of technology. All these matters were raised during consultations on the Code as possible contributions to the solution of the hours issue that do not require additional doctors.

The AMA has continued to take a cooperative approach to state health administrations, hospitals and medical education bodies in the promotion of professional and institutional self-regulation to rein in unsafe rostering practices and work hours. However, the risk assessment data confirms there are doctors across the hospital system working under unsafe rostering conditions that are likely to give rise to levels of performance impairment that compromise patient care. If this performance impairment were the result of alcohol intoxication, prevailing hospital policies would prevent these doctors from working.

Future Directions

All stakeholders in the hospital and medical sector will need to do significantly more to address the issue of unsafe rostering practices for junior doctors if the identified risks are to be minimised. In this context the AMA recommends the following initiatives be undertaken.

- Hospitals should review the rostering and work practices of their junior doctors to identify higher risk areas and to take action to deal with them. This review could initially focus on the clinical disciplines and classifications identified in this report as having a disproportionate number of doctors in the higher risk category. Such a review could also include undertaking further risk assessment audits for targeted groups. The State/Territory AMA's may be able to assist in this regard. The AMA Safe Hours Code provides guidance on best practice rostering.
- Hospitals should adopt the principles set out in the AMA Safe Hours Code as formal policy and engage external or internal resources to systematically undertake a cultural change program on rostering and work practice issues within their hospital.
- Hospitals and industrial organisations representing junior doctors should seek to address unsafe rostering practices through the award and enterprise bargaining process. This could involve specific changes to conditions of service and the adoption of the AMA Safe Hours Code as a basis for rostering.
- Hospitals and Medical Colleges should provide training for Medical Administrators, College Fellows and senior doctors on best practice rostering based on the AMA Safe Hours Code. The Federal AMA could assist in the development of an appropriate training module or session.
- Hospitals, Medical Colleges and industrial organisations should undertake pilot projects aimed at assessing the impact of particular rostering changes on training and service obligations as well as on the risk rating of junior doctors. The State/Territory AMA's may be able to assist in this regard.
- Medical Colleges should assess the impact of their training requirements on junior doctors rosters and working hours and, in conjunction with hospitals, review the balance between training and service time.
- Medical Colleges should undertake risk assessment audits of their trainees to identify the higher risk groups. The Federal AMA could assist in this regard. The risk assessment data in this paper and data collected through College supported risk assessment audits could be utilised by Colleges to formulate advice and guidance for both trainees and Fellows on best practice rostering in the context of the requirements of specific sub-disciplines and their training programs.
- Pre-vocational training bodies should seek more information from hospitals regarding intern and RMO rostering practices and risk assessment data to ensure quality learning environments. Pre-vocational training bodies could seek this information and further evidence of active hospital efforts to deal with the work hours issue as part of the process for the accreditation of hospitals and clinical departments for intern positions.
- Clinical safety and quality organisations should identify and undertake specific initiatives to address the issue of unsafe rostering of junior doctors. This could include educational campaigns highlighting the link between rostering, work hours, fatigue, performance and clinical safety. Clinical safety and quality organisations could also sponsor pilot projects aimed at improving clinical safety through best practice rostering initiatives.
- Occupational health and safety regulators should play a greater role in educating stakeholders in the hospital and medical sectors on their obligations under legislation to provide a safe working environment. The regulators should focus particularly on the relationship between fatigue and occupational safety and the experiences of other industries where the regulators have taken a more proactive role on work hours issues.
- Medical, hospital and health industry associations should identify and undertake specific educational programs for their members aimed at raising awareness of the risks associated with unsafe rostering practices.

The active participation of hospitals, regulators, medical and health organisations in the initiatives identified above would provide the basis for genuine and sustained progress in addressing the significant risks associated with current medical rostering practices in Australian hospitals.

*Australian Medical Association
Federal Secretariat
July 2001*

Attachment A

Instructions for Completion of the Safe Hours Risk Assessment Audit Form

INSTRUCTIONS

Follow the instructions and use the codes below to indicate how your time was spent on each of the 7 days being audited.

- W** Hours worked, including meal and rest breaks, overtime, recall to duty – whether paid or unpaid
- NW** Non-work periods between shifts including travel, study, etc. but excluding sleep
- S** Sleep

AMA Safe Hours

RISK ASSESSMENT AUDIT

Name:

Clinical Discipline (eg. Surgery, D&G)

Award Classification (eg. RMO1, Registrar)

Employer:

Address:

Phone Number:

Fax Number:

Date:

Please calculate and advise me of my risk rating.

7 DAY AUDIT PERIOD

Time	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7
2300-Midnight	S						
Midnight-0100							
0100-0200							
0200-0300							
0300-0400							
0400-0500							
0500-0600							
0600-0700	NW						
0700-0800							
0800-0900							
0900-1000	W						
1000-1100							
1100- Noon							
Noon-1300							
1300-1400							
1400-1500							
1500-1600							
1600-1700							
1700-1800							
1800-1900							
1900-2000							
2000-2100							
2100-2200	NW						
2200-2300							
(Y) for Yes (N) for No							
Did you have a 30 min+ meal break at work?							
Were you rostered on call?							

PREVIOUS AND UPCOMING 7 DAY PERIOD

QUESTION	ACTUAL LAST WEEK	ROSTERED NEXT WEEK
Number of hours worked (including OT, paid or unpaid)		
Number night shifts worked		
Number times main sleep taken during day		
Number days on call		
Number full days off (24 hours continuous)		

Post or fax your completed Audit Form to the AMA at the contact details on page one.

Complete your contact details.

Insert the relevant code and extend by an arrow to the end point of the activity. Activity in periods should be rounded up to an hourly segment.

Indicate for each day whether you were rostered on call and/or had a meal break (Y for yes, N for no).

Answer the questions about the previous and upcoming 7 day periods.

Post or fax your completed Audit Form to the AMA, which will calculate and advise you of your risk rating.

RISK ASSESSMENT AUDIT

Name:
 Clinical Discipline (eg. Surgery, O&G)
 Award Classification (eg. RMO1, Registrar)
 Employer:
 Address:
 Phone Number:
 Fax Number:
 Date:

Please calculate and advise me of my risk rating.

7 DAY AUDIT PERIOD

Time	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7
2300-Midnight							
Midnight-0100							
0100-0200							
0200-0300							
0300-0400							
0400-0500							
0500-0600							
0600-0700							
0700-0800							
0800-0900							
0900-1000							
1000-1100							
1100- Noon							
Noon-1300							
1300-1400							
1400-1500							
1500-1600							
1600-1700							
1700-1800							
1800-1900							
1900-2000							
2000-2100							
2100-2200							
2200-2300							
(Y) for Yes (N) for No							
Did you have a 30 min+ meal break at work?							
Were you rostered on call?							



PREVIOUS AND UPCOMING 7 DAY PERIOD

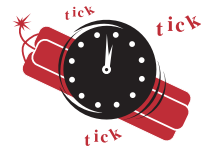
QUESTION	ACTUAL LAST WEEK	ROSTERED NEXT WEEK
Number of hours worked (including OT, paid or unpaid)		
Number night shifts worked		
Number times main sleep taken during day		
Number days on call		
Number full days off (24 hours continuous)		

Post or fax your completed Audit Form to the AMA at the contact details on page one.

Attachment B



AMA Safe Hours Risk Assessment Audit **SCORE SHEET**



Name:
Clinical Discipline (eg. Surgery, O&C)
Award Classification (eg. RMO1, Registrar)
Employer:
Address:
Phone Number:
Fax Number:
Date:

Your risk score is:

Your risk score falls in the following risk rating:

Lower Significant Higher

CALCULATION OF RISK SCORE 7 DAY AUDIT PERIOD

Point Scores		Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	AMA SAFE HOURS RISK ASSESSMENT AUDIT
1. Hours between 2300 and 0700 <i>(1.5 points each)</i>	W1								
	NW1								
	S1								
2. Hours between 0700 and 2300 <i>(1 point each)</i>	W2								
	NW2								
	S2								
3. Other Risk Factors									
W3	Work Hours								
	0.5 points per hr over 14 hours per day								
	0.5 points if no 30 min+ work break in 8 hours								
NW3	Non Work Hours								
	-4 points if on-call	-	-	-	-	-	-	-	
	-1 point if less than 10 hours till next shift	-	-	-	-	-	-	-	
	-4 points if no full day free in week	-							
DAILY TOTALS									WEEKLY TOTAL
Total Work = W1 + W2 + W3									A
Total NW = NW1+NW2+NW3									B
Total Sleep = S1 + S2									C

PREVIOUS AND UPCOMING 7 DAY PERIOD

Point Scores	Actual Last Week	Rostered Next Week
1 point per hour over 50 hrs worked		
2 points per night shift worked		
2 points per time sleep taken during daytime		
2 points per day on call		
2 points if no full day free in period		
TOTALS	D	E

RISK SCORE FORMULA (B+C) – (A + D + E) = RISK SCORE
RISK SCORE CALCULATION (+) – (+ +) =

Calculating Your Risk Rating

Your risk rating has been calculated from data on your Safe Hours Risk Assessment Audit Form.

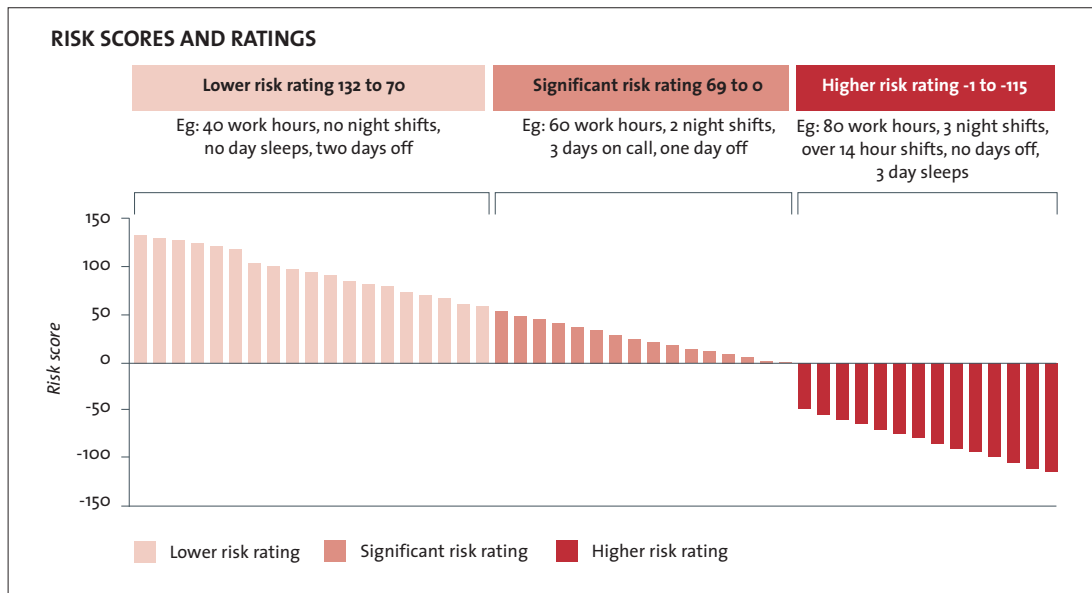
The formula is (B+C) – (A+D+E) = Risk Score

This calculation is used to approximate the balance between the benefit of recovery rated non-work time (NW) and quality sleep (S) against risk weighted working hours (W). Risk factors from the previous 7 day period and potential risk factors in the upcoming roster are used to recognise the cumulative nature of fatigue. Your risk score is then referenced against the Lower, Significant and Higher ratings derived from the application of the AMA's *National Code of Practice - Hours of Work, Shiftwork and Rostering for Hospital Doctors*.

What Does Your Risk Rating Mean?

The weighting and scoring of risks is designed to indicate whether action should be taken to manage risks arising from working long hours. The weightings are based on accepted risk factors.

The chart below shows risk scores calculated for a range of rosters - from lower risk rosters with, for example, a 40 hour week, to higher risk rosters with over 80 hours worked. You can compare your score to these. Lower, Significant and Higher risk ratings from the AMA's *National Code of Practice - Hours of Work, Shiftwork and Rostering for Hospital Doctors* are shown along with the range of scores applicable to each risk rating. These ranges are indicative only and are not intended to show the full range of all the possible combinations.



AMA Safe Hours Campaign



The AMA office in your state or territory is your first point of contact for information on the AMA Safe Hours Campaign. The AMA Safe Hours Campaign is being nationally co-ordinated by the Federal Secretariat of the AMA. General information about the Campaign or the *National Code of Practice – Hours of Work, Shiftwork and Rostering for Hospital Doctors* may be obtained from the Federal Secretariat of the AMA at the address below.

Safe Hours information is also available on the "Workplace" pages of the Federal AMA website.

Australian Medical Association
 PO Box E115 KINGSTON ACT 2604
 Ph: (02) 6270 5400 Fax: (02) 6270 5499
 Email: safehours@ama.com.au
 Website: www.ama.com.au
 ACN 008 426 793

Attachment C

Hazard Identification, Risk Assessment & Risk Control

Risk Assessment Checklist

- 1 Are doctors regularly scheduled to work more than 10-hour shifts?
- 2 Do doctors work through a full shift cycle (ie. 24 hours or more) at least once in a 7-day period?
- 3 Do doctors work more than 14 consecutive hours in any one period (including overtime and recalls) at least twice a week?
- 4 Is the minimum period of rest between scheduled work less than 10 hours?
- 5 Are the total hours worked
 - in a 7-day period more than 70 hours (including overtime and recalls)?
 - in a 14-day period more than 140 hours?
 - in a 28-day period more than 280 hours?
- 6 Is the minimum non-work time
 - in a 7-day period less than 88 hours?
 - in a 14-day period less than 176 hours?
 - in a 28-day period less than 352 hours?
- 7 Is there less than a 24-hour break free of work in a 7-day period?
- 8 Are there less than two 24-hour breaks free from work in a 14-day period?
- 9 Are there less than eight 24-hour periods free from work in a 28-day period?
- 10 Are doctors rostered for on call duty more than once every three days?
- 11 Does the shift rotation move anti-clockwise?
- 12 Does the shift rotation change direction and speed over a 28-day period?
- 13 Have the actual hours worked and the times at which they have been worked in the last 28 days varied from the posted roster by more than 25%?
- 14 Is a doctor scheduled for more than three night shifts in a 7-day period?
- 15 Is a doctor rostered for on call duty comprising more than 24 hours of the minimum 88 hours free from work in a 7-day period?
- 16 Is a doctor scheduled to work night shifts whilst peak educational and training requirements have to be met?

Source: AMA National Code of Practice – Hours of Work, Shiftwork and Rostering for Hospital Doctors, 1999.



AMA

Contact the AMA

AMA contact details are set out below:

Federal AMA

Australian Medical Association

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Website: <http://www.ama.com.au>
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