Junior Doctors Committee

Rota design made easy

BMA

How to design a rota

Introduction

With the implementation of the European Working Time Directive just around the corner, and some trusts still trying to tackle New Deal non-compliance, many rotas have been undergoing changes. Sometimes this has resulted in great success, with juniors and seniors happy with the changes, training and service needs met and hours limits achieved. On other occasions the result has been less satisfactory. In this document, we try to set out some of the considerations, which may help in arriving at better outcomes more of the time.

Junior doctors historically worked 'on-call' patterns for which rota design was usually a fairly straightforward task. Since 1991, the New Deal has set limits on junior doctors' hours of work and recognised that many intense specialties require much safer shift work patterns. With the new contract in December 2000 and the resultant financial impact of New Deal non-compliance, in addition to the legal requirements of EWTD, it has become clear that rota design requires a more structured, controlled and integrated approach. A broad knowledge base is required to design a New Deal compliant rota and thus those charged with this task should be appropriately trained. The impact of New Deal non-compliance is significant, not only for the trust, but also for the health and safety of junior doctors and their patients. This guide aims to take a simple 'step-by-step' approach to rota design. There cannot be 'one size fits all' solutions, as individual situations will differ in many ways. Therefore, the following are suggestions of the sort of questions that may enable you to find your own solutions. We assume a level of familiarity with the hours of work and rest limits stipulated by the New Deal and EWTD as well as the rebanding protocol. These are summarised for ease of reference in appendices I to III.

The process of rota design

Change management principles

Before delving into the complexities of rota design, it is worth considering that changes to the working pattern or work environment can generate significant stress and uncertainty. Experience has shown that implementing changes in junior doctors' work patterns is often a difficult process. Altering a rota is effectively an exercise in change management and should be approached with this in mind. Design of the rota itself can be relatively simple. However, the most important preliminary stages of information gathering and consultation are often overlooked or dismissed. Effort at these early stages facilitates management of the rota transition at later stages. The aim of the process is to achieve successful implementation of a rota that meets New

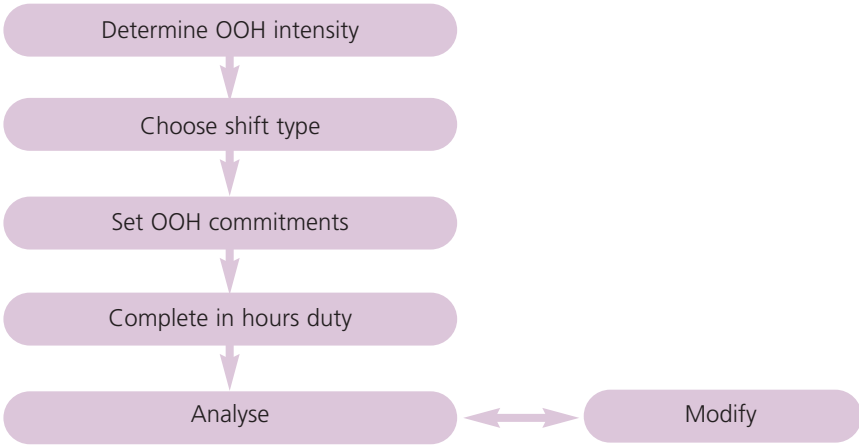
Deal/EWTD limits, but this requires involvement and a degree of 'ownership' by the junior doctors working the rota as well as senior medical and nursing staff. One must bear in mind at all times that changes in junior doctors' hours often have a major impact on others in the hospital team.

A system for rota design

Before we look at the details of shift type and work patterns, it is important to decide whether you are asking the right question. First, consider whether all tasks currently being performed by doctors, especially out-of-hours, actually need to be done at that time and by that class of professional. Then decide whether you need every tier of doctor (PRHO/SHO/SpR/consultant) available at all times of day and night. Are there any related specialties with which cross-cover arrangements might be possible (eg general surgery and urology SHOs)? The answers will be specialty and location specific. You may find the Hospital at Night methodology helpful at this stage.

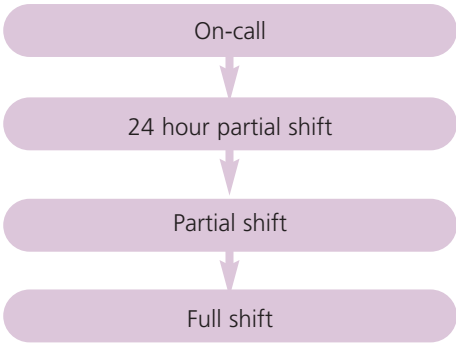
http://www.modern.nhs.uk/hospitalsatnight

We will now assume that you have determined that you have a group of doctors who need to be present in the hospital at all times.



1. Determine out-of-hours intensity (OOH)

Out-of-hours intensity will determine the type (or types) of shifts that can be considered. The shift types can, in broad terms, be thought of as a continuum of increasing work intensity from on call to full shift.



The rest requirements for each shift type are detailed in appendix I

So, for juniors who are rarely called out-of-hours, an on-call shift may be appropriate, while for those juniors working fairly constantly out-of-hours a full shift would be more appropriate. Remembering that all resident hours count as work for the purposes of the EWTD, it is worth considering whether the skills of the sleeping on-call doctor are potentially required immediately in the hospital or whether they could do that on-call safely from home.

Timing of rest is also important. From appendix I, we can see that for a 24-hour partial shift pattern, six hours rest must be achieved within each 24-hour shift, and four of these hours must be continuous, that is uninterrupted, between 10pm and 8am, on at least 75 per cent of occasions. Where juniors regularly achieve greater than six hours rest in a 24-hour period, but are subject to frequent short disturbances from rest, this rota would not achieve the minimum continuous rest. It may, therefore, be more appropriate to consider a partial shift, where the timing of rest is not stipulated.

It is important to get reliable and detailed information of out-of-hours calls including their timing, duration and nature. It may be that a night sister screening all calls to the resident doctor can effectively deal with frequent disruptions. Such mechanisms have been shown to reduce the frequency of disturbances by up to 70 per cent (Lear et al, 1993).

Sources of information to consider are:

- **Previous monitoring data**
  Perhaps the gold standard for determining frequency, duration of work.

- **Bleep data**
  Some bleep systems allow analysis of the timings and source of calls to bleeps. This data must be analysed with care eg no bleeps all night may mean the doctor was asleep and undisturbed, or may mean the doctor never left the medical admissions ward, so there was no need for the bleep.

- **Admission data**
  Admission units often have a peak of admissions in the late afternoon and early evening. This will determine the staffing levels required at particular times.

- **Junior doctors**
  Speak with juniors who are working in the unit. This will not only allow the valuable exchange of information, but foster greater ownership of the change process and ultimately have a positive effect on subsequent implementation. Also, remember that these juniors have often worked in a variety of other hospitals and may have other ideas and experiences of various rotas to share.

2. Choose shift type

The shift type must be chosen with reference to the information acquired above.

At this stage, the choice of shift may be clear. For example, the junior may be clearly working full shift intensity and consideration of any other pattern would be inappropriate. Where the pattern lies somewhere between shift types it may be appropriate to consider the implementation of strategies to remove duties that could be effectively managed by other non-medical staff. Further rounds of discussion and feedback may be beneficial at this point.

Having determined the shift type, we now begin with rota design on paper. We will work through a detailed example, designing a full shift rota with a full week of nights. We will then consider a similar rota with a split week of nights before considering on-call rotas.

3. Set out-of-hours commitments

Example 1: Full shift; full week of nights

We have eight PRHOs working a partial shift rota in a busy unit. We have determined that on average these juniors achieve one to two hours of rest overnight on 50 per cent of occasions and are, therefore, non-compliant. All the calls overnight are deemed necessary, so we have no scope to decrease the intensity of work. We must, therefore, consider a full shift work pattern.

We take a blank rota template:

Doctor	Mon	Tues	Wed	Thurs	Fri	Sat	Sun
1							
2							
3							
4							
5							
6							
7							
8							

We first complete out-of-hours shifts. We know we need one junior doctor on overnight.

Night shifts: factors to consider.

- Have traditionally often been seven consecutive shifts - the 'week of nights'.
- Can easily be split into three nights and four nights, or even single nights, although this may have an impact on daytime cover.
- Shorter blocks of nights have fewer adverse health effects and have social and family life benefits too.
- Try to disrupt as few weekends as possible.
- Consider length of night shifts eg seven nights at 12 hours per night leaves a more tired (and probably less safe) doctor than 7 eight hour shifts.
- Adequate time for handover must be built in. This might include a post-take ward round for training purposes.
- Plan timing of teaching sessions to enable maximum attendance (first thing in the morning may be best). This may well mean radical changes to the whole team's traditional working week.
- Do not be afraid to move clinic or theatre sessions so that juniors can attend for training or service needs eg being short staffed on Fridays in the 'week of nights' pattern.
- Innovative patterns are emerging from all over the country. If you have a fully compliant and workable solution, do not worry if you can't find anyone else doing the same as you.

In consultation with the juniors and consultants it is decided that a week of nights would be appropriate.

The maximum full shift length is 14 hours. We decide on a 13-hour long day shift length to allow a one-hour safety margin before New Deal limits are breached. EWTD requires 11 hours rest in 24 hours otherwise compensatory rest is needed. The normal working day of juniors on this rota is 9am to 5pm. Therefore, the long day shift will run from 9am to 10pm with the night shift being 9.30pm to 9.30am, which allows a half hour period for handover. The time allowed for handover will vary according to an individual unit's requirements.

Doctor	Mon	Tues	Wed	Thurs	Fri	Sat	Sun
1							
2	Off	Off	Night	Night	Night	Night	Night
3	Night	Night	Off	Off	Off	Off	Off
4							
5							
6							
7							
8							

Night: **2130-0930**

If one felt that 12 hours were too long for the night shift, another alternative would be to start the night shift later and move the long day accordingly, though it would be essential to consider access to public transport should such an option be chosen.

At this point, it is wise to complete (at least) a week of 'normal working days' in which leave could be taken. One of the disadvantages of shift patterns is that taking leave can become difficult. In our experience, allowing the maximum flexibility within the shift plan for swaps and leave-taking can avoid ongoing headaches with juniors constantly asking for help with impossible rota swaps. It is JDC policy that annual leave should not be fixed in advance and doctors should be free to take leave at any point during their rota. Many people may prefer to take a two-week break or would like the luxury of being able to holiday with their partner (who may also be a junior doctor on a shift rota). Only allowing study leave at fixed times must also be avoided as courses and examinations cannot be moved.

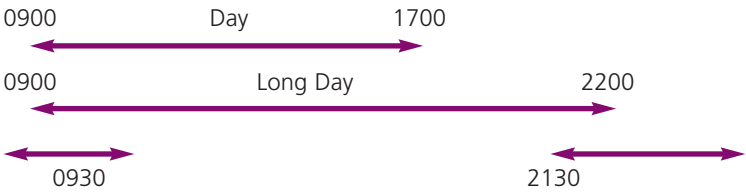
Doctor	Mon	Tues	Wed	Thurs	Fri	Sat	Sun
1							
2	Off	Off	Night	Night	Night	Night	Night
3	Night	Night	Off	Off	Off	Off	Off
4	Day	Day	Day	Day	Day	Off	Off
5	Day	Day	Day	Day	Day	Off	Off
6							
7							
8							

Night: **2130-0930**
Day: **0900-1700**

Now add in the long days. Some departments will find that they need just one doctor to cover the early evening period; in other units the peak of work intensity will necessitate two doctors being present. In our example, it is felt that only one doctor is required. If possible, allow a run of three free weekends at some point during the rota to allow for two-week holidays to be taken. You will need to decide whether to have three long days in a row over one weekend or whether to split these up.

Doctor	Mon	Tues	Wed	Thurs	Fri	Sat	Sun
1	Long			Long			
2	Off	Off	Night	Night	Night	Night	Night
3	Night	Night	Off	Off	Off	Off	Off
4	Day	Day	Day	Day	Day	Off	Off
5	Day	Day	Day	Day	Day	Off	Off
6					Long	Long	Long
7			Long				
8		Long					

Night: **2130- 0930**
Day: **0900- 1700**
Long Day: **0900- 2200**



4. Complete in hours duty

We have now covered the 24-hour period with at least one doctor on at all times. Now fill in all remaining shifts. This is most often with normal working days. However, it may be more appropriate to 'target' shifts to periods of known increased intensity, based on information gathered above, for example, your unit may need to introduce a late shift running from lunchtime to early evening or a twilight shift from teatime to midnight. At this point you may also consider whether you plan to achieve a lower hours limit, in which case you are likely to need to roster in time off during the week. Doctors often find half days finishing at lunchtime unsatisfactory, as it is difficult to leave on time. This is likely to mean that your rota on paper will not match with monitoring findings, so is best avoided.

Doctor	Mon	Tues	Wed	Thurs	Fri	Sat	Sun
1	Long	Day	Day	Long	Day	Off	Off
2	Off	Off	Night	Night	Night	Night	Night
3	Night	Night	Off	Off	Off	Off	Off
4	Day	Day	Day	Day	Day	Off	Off
5	Day	Day	Day	Day	Day	Off	Off
6	Day	Day	Day	Day	Long	Long	Long
7	Day	Day	Long	Day	Day	Off	Off
8	Day	Long	Day	Day	Day	Off	Off

Night: **2130-0930**
Day: **0900-1700**
Long day: **0900-2200**

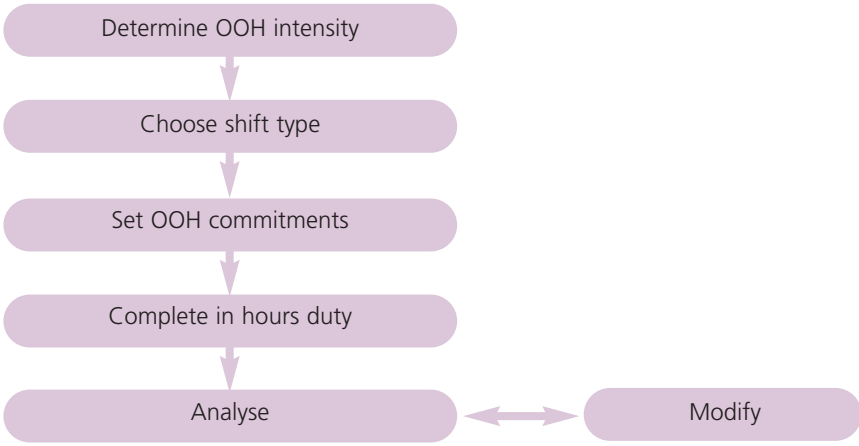
There are different ways of slotting in the long days and day shifts, for example, you can begin with a rota for nights and weekends only (these are the most difficult to swap within a fixed full shift rota). Doctors then submit any changes to these shifts and applications for leave up till a 'closing date' (eg four weeks before the next eight week block begins). After that, the next set of rotas is formulated, taking into account people's availabilities. This has an advantage especially where there are a small number of doctors on a shift rota with prospective cover, but you also wish to retain flexibility for leave. It requires more work in some ways, but can make for happy doctors and avoids 'impossible swap' headaches.

Having determined the basic principles of rota design, we can now briefly consider two further examples.

Example 2: Full shift; split week of nights

Consider a rota with eight PRHOs working a similar intensity as those above. We therefore must consider a full shift working pattern. However, we decide that a week of nights is neither conducive to patient care nor junior doctor morale. We can therefore split the week of nights.

Again, using the rota design algorithm:



We first must set our OOH commitments. Again, first take a blank rota template.

Doctor	Mon	Tues	Wed	Thurs	Fri	Sat	Sun
1							
2							
3							
4							
5							
6							
7							
8							

When considering split weeks of nights, it is wise to split the week into three and four days, with the three days being Friday, Saturday and Sunday. In doing so, we disrupt only a single weekend.

Doctor	Mon	Tues	Wed	Thurs	Fri	Sat	Sun
1							
2					Night	Night	Night
3	Off						
4							
5							
6	Night	Night	Night	Night	Off	Off	Off
7							
8							

Night: **2130-0930**

Again, add at least a week of 'normal working days'.

Doctor	Mon	Tues	Wed	Thurs	Fri	Sat	Sun
1							
2					Night	Night	Night
3	Off						
4							
5							
6	Night	Night	Night	Night	Off	Off	Off
7	Day	Day	Day	Day	Day	Off	Off
8	Day	Day	Day	Day	Day	Off	Off

Night: **2130-0930**
Day: **0900-1700**

Add long days.

Doctor	Mon	Tues	Wed	Thurs	Fri	Sat	Sun
1	Long			Long			
2		Long			Night	Night	Night
3	Off				Long		
4			Long				
5						Long	Long
6	Night	Night	Night	Night	Off	Off	Off
7	Day	Day	Day	Day	Day	Off	Off
8	Day	Day	Day	Day	Day	Off	Off

Night: **2130-0930**
Day: **0900-1700**
Long day: **0900-2200**

Now complete the in hours duty.

Doctor	Mon	Tues	Wed	Thurs	Fri	Sat	Sun
1	Long	Day	Day	Long	Day	Off	Off
2	Day	Long	Day	Day	Night	Night	Night
3	Off	Day	Day	Day	Long	Off	Off
4	Day	Day	Long	Day	Day	Off	Off
5	Day	Day	Day	Day	Day	Long	Long
6	Night	Night	Night	Night	Off	Off	Off
7	Day	Day	Day	Day	Day	Off	Off
8	Day	Day	Day	Day	Day	Off	Off

We now have a rota similar to that in example 1, but with a split week of nights. It is important to note that there are fewer juniors on the ground on Mondays and Fridays in this example as a result of the need to allocate a day off after nights.

Example 3: Non-resident on-call rota

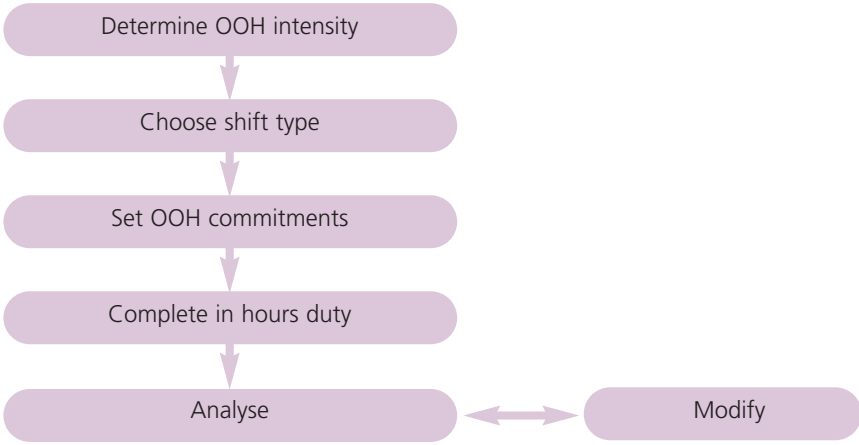
We have seven SHOs working in a less intense unit. We have determined that these juniors achieve at least eight hours rest on week nights, with five hours continuous between 10pm and 8am. Furthermore, at weekends, at least half of the duty period is rest, again with five hours continuous between 10pm and 8am. We have a robust bleep policy in place that limits night-time disturbance. We, therefore, have scope to consider an on-call work pattern.

Again, we need to consider the rest requirements for an on-call rota, outlined in appendix 1, and review factors specific to on-call rotas.

On-call rotas: factors to consider

- Each on-call rota is highly individual as the intensity for out-of-hours work is key to determining actual hours within the allocated available hours.
- Only suitable for certain specialities with low out-of-hours intensity.
- Can be used in different settings if there are two rotas running side by side providing cross-cover overnight.
- When there is cross-cover there must be robust systems in place for handover, usually involving switchboard redirecting the pages.
- If cross-cover is involved the rota must be given sufficient time to bed in before monitoring.
- Sticking to an on-call pattern must not be used as an excuse to not consider other issues (eg inappropriate duties).

Using the same principles as before, the factors above, and the rota design algorithm, we have:



Having determined our out-of-hour's intensity and shift type, we next set OOH commitments.

Doctor	Mon	Tues	Wed	Thurs	Fri	Sat	Sun
1	On call			On call			
2						On call	On call
3							
4							
5					On call		
6			On call				
7		On call					

On call: 0900-0900

Given that the maximum shift length for an on-call rota is 32 hours during weekdays, and 56 hours at the weekend, it is wise to include a post call day of seven hours to ensure that the maximum shift length is not breached. Also, account for a handover period on the Saturday morning should be made.

Doctor	Mon	Tues	Wed	Thurs	Fri	Sat	Sun
1	On call	Post call		On call	Post call		
2						On call	On call
3							
4							
5					On call	Sat am	
6			On call	Post call			
7		On call	Post call				

On call: 0900-0900
Post call: 0900-1600
Sat am: 0900-1000

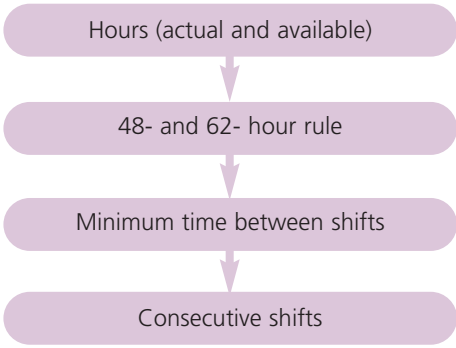
Now complete the in hours duty.

Doctor	Mon	Tues	Wed	Thurs	Fri	Sat	Sun
1	On call	Post call	Day	On call	Post call	Off	Off
2	Day	Day	Day	Day	Day	On call	On call
3	Day	Day	Day	Day	Day	Off	Off
4	Day	Day	Day	Day	Day	Off	Off
5	Day	Day	Day	Day	On call	Sat am	Off
6	Day	Day	On call	Post call	Day	Off	Off
7	Day	On call	Post call	Day	Day	Off	Off

Now we have a completed non-resident on-call rota template.

5. Analysis

Having designed a preliminary rota, we must determine whether the rotas meet all New Deal limits. We will use example rota 1 as a worked example in this section. A useful approach is to first determine the hours worked before examining the rest requirements of the New Deal, as detailed below.



Hours

The hours of work should be determined using the Riddell formula as detailed in the Junior Doctors Handbook, and shown below.

The Riddell Formula ©

$$\text{Average hours per week} = \frac{D - (E \times C)}{B - E}$$

A = total leave entitlement for the year (in weeks)
B = number of weeks in the rota cycle (often equal to the number of doctors)
C = number of hours in a leave week (0 if all rostered shifts must be covered, irrespective of who is on leave)
D = total hours worked in the rota cycle if no leave is taken
E = (A/52 X B)

Thus, in order to determine the hours available for work on a rota we must determine four variables, A to D as shown in the information box above. For our example 1 rota:

A = 6.5 weeks (5 weeks annual leave, 1.5 weeks statutory leave. PRHOs do not have a study leave entitlement otherwise the maximum entitlement would also have to be added on here)
B = 8 weeks
C = 40

Variable D is determined by totaling all hours worked on the rota (assuming no leave is taken). Thus:

Doctor	Mon	Tues	Wed	Thurs	Fri	Sat	Sun
1	Long	Day	Day	Long	Day	Off	Off
2	Off	Off	Night	Night	Night	Night	Night
3	Night	Night	Off	Off	Off	Off	Off
4	Day	Day	Day	Day	Day	Off	Off
5	Day	Day	Day	Day	Day	Off	Off
6	Day	Day	Day	Day	Long	Long	Long
7	Day	Day	Long	Day	Day	Off	Off
8	Day	Long	Day	Day	Day	Off	Off

Night: **2130-0930** **= 12 hours**
Day: **0900-1700** **= 8 hours**
Long day: **0900-2200** **= 13 hours**

So,

Doctor	Mon	Tues	Wed	Thurs	Fri	Sat	Sun	Total
1	13	8	8	13	8	0	0	50
2	0	0	12	12	12	12	12	60
3	12	12	0	0	0	0	0	24
4	8	8	8	8	8	0	0	40
5	8	8	8	8	8	0	0	40
6	8	8	8	8	13	13	13	71
7	8	8	13	8	8	0	0	45
8	8	13	8	8	8	0	0	45
Total								**375**

Therefore, D = 375 hours.

Substituting these values into the Riddell formula, we have

E = (A/52) x B
= (6.5/52) x 8
= 1.0

Average hours per week $= \frac{D - (E \times C)}{B - E}$

$= \frac{375 - [1 \times 40]}{8 - 1}$

$= \frac{335}{7}$

= 47.9 hours

Therefore, this rota is within the New Deal limits of 56 hours of work.

Changes to this rota for groups other than PRHOs

Given that senior house officers and specialist registrars are also entitled to study leave in addition to annual leave and statutory leave, the calculation of hours would be different for each of these groups.

Although the terms and conditions of service allow for 30 days study leave per annum, most rotas are worked out using four weeks as the total, rather than 30 days.

Thus, for senior house officers or registrars working the same rota as the PRHOs an additional prospective cover allowance must be added to create the final hours total for these groups. This is shown below:

A = 10.5 weeks (5 weeks annual leave, 1.5 weeks statutory leave, 4 weeks study leave)

B = 8 weeks

C = 40

Using the formula as above:

E = (A/52) x B
= (10.5/52) x 8
= 1.62

$$\text{Average Hours per Week} = \frac{D - (E \times C)}{B - E}$$

$$= \frac{375 - [1.62 \times 40]}{8 - 1.62}$$

$$= \frac{310}{6.38}$$

$$= 48.6 \text{ hours}$$

Therefore, this rota is also within the New Deal limits of 56 hours of work.

6. Modify / Consult / Modify

Designing a rota that is New Deal compliant on paper is not the end of the process. A key, and often overlooked step, is to consult again with juniors, consultants, nurses and other relevant staff. Ensure key concerns are addressed and that there is some 'ownership' of the change process at all levels. Several rounds of consultation and modification may be required. Do not underestimate the value of this process. Many good rotas have not been successfully implemented as a result of individuals feeling disenfranchised. Remember that, in order to introduce your new rota, the rebanding protocol must be fully followed (see appendix III).

The contractual requirements

There is a clear mechanism for rebanding posts that has been agreed between the Department of Health and the BMA. This rebanding protocol (see appendix III) dictates that if a change in the working pattern takes place, monitoring must be carried out. This is to ensure that when implemented, the change to the working pattern meets the needs of both junior doctors and service delivery, and to determine the banding of the post in practice, this may be different from the banding calculated from the paper rota. The rebanding protocol also requires that a notification, signed by representatives of both the trust and the postholders, be sent to the Regional Action Team[1] for approval before the banding change can be finally instituted.

1 In April 2003 the Regional Action Teams were reconfigured and are now the responsibility of the Strategic Health Authorities. Although the Action Teams may now come under different names in different regions, their role in the rebanding process remains unchanged.

Monitoring of junior doctors working patterns and the associated banding is a contractual requirement on employers. The Department of Health has issued guidance on monitoring which is available on its website (Department of Health, 2000). Monitoring is often perceived as a chore by trusts and junior doctors alike. In response to this the BMA recently carried out a case study of monitoring arrangements in a number of trusts (BMA, 2003). This study found that communication is critical to successful monitoring and where possible, doctors should be involved in all aspects of the monitoring process, to ensure inclusiveness and hence co-operation of junior doctors.

Either the employer or the postholders may instigate a review of arrangements at any time should they feel that the banding allocation no longer reflects correctly the working practices of the post.

Keys to successful implementation

- Discuss possible rota change with stakeholders
- Gather information on work intensity
- Choose shift type
- Consider how teaching will occur
- Design rota pattern
- Ensure holidays and study leave will be possible
- Check compliance on paper
- Consult with stakeholders
- Complete the rebanding / approval to change band form fully
- Implement change
- Consult with stakeholders
- Make adjustments as necessary
- Formally monitor hours

Appendix I

Hours of work and rest requirements (New Deal)

Full shift	
Max average duty hours per week	56
Max average actual hours of work	56
Max continuous duty period	14 hours
Minimum time off between duties	8 hours
Minimum continuous off duty	48 hours + 62 hours (in 28 days)
Minimum rest in duty period	Natural breaks
Minimum continuous rest guide	At least 30 mins continuous after 4 hours of continuous duty
Timing of continuous rest	At least 30 mins continuous after 4 hours of continuous duty

Partial shift	
Max average duty hours per week	64
Max average actual hours of work	56
Max continuous duty period	16 hours
Minimum time off between duties	8 hours
Minimum continuous off duty	48 hours + 62 hours (in 28 days)
Minimum rest in duty period	25% of out of hours duty period
Minimum continuous rest guide	Frequent short periods of rest are not acceptable
Timing of continuous rest	Any time in duty period

24-hour partial shift	
Max average duty hours per week	64
Max average actual hours of work	56
Max continuous duty period	24 hours
Minimum time off between duties	8 hours
Minimum continuous off duty	48 hours + 62 hours (in 28 days)
Minimum rest in duty period	6 hours
Minimum continuous rest guide	4 hours
Timing of continuous rest	Between 10pm and 8am

On call	
Max average duty hours per week	72
Max average actual hours of work	56
Max continuous duty period	32 hours (56 hours at weekends)
Minimum time off between duties	12 hours
Minimum continuous off duty	48 hours + 62 hours (in 21 days)
Minimum rest in duty period	50% of the out of hours duty period (If only 8-12 hours rest at weekend then compensatory rest)
Minimum continuous rest guide	Minimum 5 hours
Timing of continuous rest	Between 10pm and 8am

Maximum number of continuous duty days for all working patterns is 13, followed by a minimum of 48 hours off duty. All rest requirements must be met on at least 75 per cent of occasions.

Appendix II

Hours of Work and Rest Requirements (European Working Time Directive)

The New Deal
The implementation of the New Deal for doctors in training has acted as a driver for change in the way that the medical workforce is organised in the UK.

In recent years, more doctors have moved away from the traditional on-call model to patterns of work more appropriate to their workload intensity. Full shift rotas have become the norm in many acute care settings. This will often mean different teams looking after the same group of patients in the course of any given day. As a consequence, robust handover mechanisms are of the utmost importance.

New Deal rest requirements

Rota type	Minimum time between duties (h)	Minimum Time off duty (h)	Rest
On call	12	48 + 62 every 28 days	OOH incl. 5 hours continuous at night
24-hour partial shift	8 night	48 + 62 every 21 days continuous at	6 hours incl. 4 hours
Partial shift	8	48 + 62 every 21 days	OOH period
Full shift	8	48 + 62 every 21 days	Natural breaks only

- OOH (out-of-hours) – all time outside normal working day Mon-Fri.
- All working patterns are entitled to natural breaks – 30 minutes continuous break after approximately four hours of duty.

The European Working Time Directive

Doctors in training will benefit from a phased introduction of the EWTD. All other staff groups – and most other employees – are already protected by this legislation. The EWTD is essential health and safety legislation designed to protect the individual from the potentially damaging effects of working excessive hours and to ensure that they are adequately rested. Enforcement of the legislation is the responsibility of the Health and Safety Executive. The limits for working hours under the EWTD are summarised in the boxes below. These limits are in addition to those already provided by the New Deal, which continues to apply.

Average working hours per week for doctors in training

August 2004	58 hours
August 2007	56 hours
August 2009*	48 hours

* In exceptional circumstances a country may apply for an extended deadline up to 2012 with a 52-hour interim limit

Rest provisions from August 2004

11 hours continuous rest in every 24-hour period
Minimum 20 minute break when shift exceeds 6 hours
Minimum 24-hour rest in every 7 days **or**
Minimum 48-hour rest in every 14 days
Minimum 4 weeks annual leave
Maximum 8 hours work in 24 for night workers (if applicable)

Further details are contained in *Time's Up – a guide on the EWTD for junior doctors* which can be accessed at www.bma.org.uk/ewtd

Appendix III

The rebanding protocol

1. The pro-forma should be used both as a checklist to ensure that all the necessary stages of the rebanding process have been adhered to, and as a record of the process for payroll purposes.

2. Column headings are to be interpreted as:
   - stage: a step in the process which must be completed
   - evidence required: documentation/data/input that must be available in order to facilitate a decision at the relevant stage
   - documentation: the formal confirmation that the stage has been followed through to successful completion.

3. In the pro-forma, references to the Action Team should be taken to refer to the Regional Improving Junior Doctors Working Lives Action Team or any successor body.

4. Where a decision from the Action Team is indicated, such a decision must be agreed by at a minimum, both a junior doctor employee and a BMA junior doctor representative, and will be co-ordinated by an officer acting with the full authority of, and nominated by, the Action Team Chair.

5. The order of the stages in the pro-forma does not follow the order stated in AL(MD)1/01; this is to follow a logical process. It would for example be appropriate in most cases for the Action Team to discuss and agree revised arrangements with juniors and their employers in advance of seeking educational approval.

6. In recognition of the range of different monitoring processes used in the regions and not wishing either to duplicate current practices or to create an unnecessary burden on trusts we do not propose to be prescriptive in the way supporting monitoring data is to be presented. However:
   - evidence of monitoring must conform to the requirements of the documentation issued as guidance accompanying HSC 2000/031

7. Where provisional banding is authorised monitoring should take place within six weeks of the implementation of new working arrangements, and all necessary actions taken to ensure that the results of the monitoring are reflected in banding and salary.

APPROVAL TO CHANGE BAND

Trust: **Hospital:**

Specialty(ies):

Numbers of Doctors in Working Arrangement by Grade

PRHO: **SHO:** **SpR:** **Other:**

Working Pattern:

Current Banding: **Proposed Banding:** **Effective Date:**

Stage	Evidence Required	Documentation	Confirmed Y/N
1a. Consult post-holders on proposed changes and obtain agreement of the majority participating in the working arrangements.	Approval of majority of current/incoming post-holders	Template signed by Trust junior doctor representative confirming agreement of majority of current/ incoming post-holders	
1b. Submit details of the new working arrangements to the Action Team for information and invited comment.	Full details of proposed working arrangements and/or rota summary (eg from ND2000 software)	Letter signed by Action Team Chair or delegated authority confirming theoretical compliance of working arrangements	
1c. Obtain agreement from Clinical Tutor for education purposes.	Full details of proposed working arrangements Comments of Action Team	Letter signed by Dean or delegated authority confirming educational acceptability of working arrangements	

If exceptionally and because of the impracticality of full implementation of new working arrangements a Trust wishes to offer future posts at an expected banding in advance of actual monitoring, approval must be sought from the Regional Action Team (or its equivalent) in advance of making any such offer. Any offer made in these circumstances will be strictly provisional, and must be confirmed by monitoring following the implementation of new working arrangements.

Stage	Evidence Required	Documentation	Confirmed Y/N
2. Submit request for provisional approval of working arrangements to Action Team	Signed letter from Trust giving reasons for inability to fully monitor before rebanding. Evidence of full or partial testing/monitoring of proposed arrangements	Letter signed by Action Team Chair or delegated authority authorising an offer of provisional banding.	
Current Banding:	**Provisional New Banding:**	**Implementation Date:**	
Action Team Signatory		**Date:**	

Stage	Evidence Required	Verification	Confirmed Y/N
3. Monitoring of working pattern and confirmation of banding	Completed monitoring returns from 75% of doctors on rota over full 2 week period Summary of monitoring results	This signed template	
Previous banding:	**Verified New Banding:**	**Effective Date:**	
Trust Signatory (Designation)		Date:	
Rota Signatory (Junior Doctor LNC representative)		Date:	
Action Team Signatory (Designation)		Date:	

Appendix IV

Useful Links:

1. **Guidance on Working Patterns for Junior Doctors, a** document produced jointly by the Department of Health, the National Assembly for Wales, the NHS Confederation and the British Medical Association, November 2002.

   http://www.dh.gov.uk/assetRoot/04/03/45/33/04034533.pdf

2. **Terms and Conditions of Service** for Hospital Medical and Dental Staff and Doctors in Public Health Medicine and the Community Health Service (England and Wales), September 2002.

   http://www.publications.doh.gov.uk/hrinthenhs/doctorstermsandconditions/doctorstermsandconditions.pdf

3. **Junior Doctors' Contracts** section of the Department of Health website. These pages provide guidance on rebanding, monitoring and pay.

   http://www.dh.gov.uk/PolicyAndGuidance/HumanResourcesAndTraining/ModernisingPay/JuniorDoctorContracts/fs/en

4. **Summary Report on Pay Protection** a document produced by the BMA Junior Doctors Committee, July 2003.

   http://www.bma.org.uk/ap.nsf/Content/payprotection

5. **Implications for Health and Safety of Junior Doctors' Working Arrangements** a document produced by the BMA Health Policy and Economic Research Unit, August 2000.

   http://www.bma.org.uk/ap.nsf/Content/implications+for+health+and+safety+of+junior+doctors%27+working+arrangements

6. **Time is Running Out - the rush to reband training posts explained** a document produced by the BMA Junior Doctors Committee, looking at the New Deal, the banded contract and the European Working Time Directive and its introduction in August 2004.

   http://www.bma.org.uk/ap.nsf/Content/RunningOut

7. **Time's Up –** follow up guidance from the BMA on the European Working Time Directive

   http://www.bma.org.uk/ewtd or directly:
   http://www.bma.org.uk/ap.nsf/Content/TimesUp

8. **Safe Patients : Safe Handover –** a guide from the BMA, NPSA and Modernisation Agency on clinical handover for clinicians and managers

   http://www.bma.org.uk/ap.nsf/Content/__Hub+JDC+publications

9. **Rota Monitoring – the essentials -** a guide from the BMA on monitoring of hours for junior doctors

   http://www.bma.org.uk/ap.nsf/Content/__Hub+JDC+guidance

References:

Lear, J. T., Kelly, M. J., and Worley, C. (1993). Disruption caused by the house officer's bleep: a simple solution. Ann R Coll Surg Engl *75*, 9-11.

Department of Health, Junior Doctors' Hours–Monitoring Guidance, October 2003. http://www.dh.gov.uk/assetRoot/04/05/38/82/04053882.pdf.

BMA Health Policy and Economic Research Unit, Monitoring of junior doctors' hours – a case study perspective, November 2003. http://www.bma.org.uk/ap.nsf/Content/monitoring/$file/monitoring.pdf

Rebanding Protocol

In England and Wales the rebanding protocol is available from the Department of Health website
http://www.dh.gov.uk/assetRoot/04/05/38/78/04053878.pdf

Scotland
http://www.show.scot.nhs.uk/sehd/mels/HDL2002_33.pdf

Northern Ireland
http://www.dhsspsni.gov.uk/hss/HRD/documents/guidance_on_working_patterns.pdf

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