

## **Working Time Directive 2009 and shift working: ways forward for anaesthetic services, training, doctor and patient safety.**

**Royal College of Anaesthetists: Updated September 2007**

### **Summary**

- The development of educationally and legally viable rotas which also meet service delivery needs is challenging
- Trainees must receive on average a minimum of 3 directly supervised half-day sessions per week: these must be spread across all areas of practice to ensure a balanced programme of training
- **As an absolute minimum**, trainees shift working must not be more onerous than 1 night in 8 to ensure there is sufficient “in-hours” training time and then only if all nominal day time on call sessions are utilised for training when prospective cover included (see Appendix Rota 3)
- Reducing the numbers of on call rotas overnight increases the amount of “in hours” training time
- Ideally no more than 2 or 3 nights should be worked consecutively and these should be followed by 2 nights of uninterrupted sleep
- The effects of fatigue and risk should be included in the rota design
- When constructing shift patterns, all those affected should be consulted (trainees, SAS and other non-consultant grades and consultants)
- The need for traditional day-time “emergency on-call” rotas in individual hospitals should be reviewed and the training opportunities that day-time “emergency” sessions provide be optimised
- Consultant led “extended day” (08.00-22.00) acute surgical operating improves patient care and training opportunities

### **Background**

In August 2009, the Working Time Directive (WTD) 48 hour working week will be implemented. This, along with the introduction of run-through training in August 2007, will have a major impact on both anaesthetic training and service delivery.

The Royal College of Physicians (RCP) report *“Working the Night Shift; designing safer rotas for junior doctors in the 48-hour week”* (October 2006) [1], highlighted issues of night time working in relation to both patient and doctor safety. It proposed that the optimum New Deal and WTD compliant rota requires a cell of 10 trainees working three nine-hour shifts per 24 hours: this pattern minimises fatigue and risk to doctors and therefore, in all probability, to patients. Whilst such rotas may be most appropriate for trainee physicians, the working practices of anaesthetists are such that other options may be preferable.

The development of 2009 compliant out-of-hours rotas that also provide good education and training is challenging: this document identifies the issues and provides guidance on how this aim may be achieved.

### **Specialty specific issues**

The development of this Royal College of Anaesthetists (RCOA) document takes a number of important factors into consideration. These are as follows:

- Many hospitals lack sufficient staff to allow traditional rota arrangements to continue whilst allowing trainees to be on a 1:10 rota 24/7.
- The RCP ideal rota (Appendix Rota 2) appears to be framed for a five-day week and concentrates staff between the hours of 09.00–18.00. Rota planning for anaesthesia (and the surgical specialties) must take account of the need for acute surgical intervention. This requires increasing support in the ‘twilight’ hours, which is a pattern of working supported by the Royal College of Surgeons of England (RCSE) WTD Working Group [2].
- *The extended day.* Along with the RCSE, the RCoA view is that hospitals should maximise the use of the extended day (08.00–22.00) for emergency operating (CEPOD and trauma), a work pattern supported by NCEPOD [3]. If implemented it may be possible to reduce the number of on call rotas overnight (and therefore increase daytime training opportunities), provided only true life/limb saving surgery is undertaken between 22.00 and 08.00: this requires the active involvement of both consultant anaesthetists and consultant surgeons in the clinical care to ensure optimal patient outcome. It would be advisable to undertake a risk assessment exercise before rota numbers are reduced to ensure the service is safe.
- The majority of hospitals in the UK have daytime “CEPOD” and “Trauma” lists. Where these “emergency” lists are consultant delivered they provide excellent training opportunities within what is frequently considered “on call” time. It is probable that for many Trusts such consultant list cover renders the traditional 1<sup>st</sup>/2<sup>nd</sup> call system unnecessary during week-day daytime hours, so increasing the time available for training significantly on what might otherwise be considered unacceptable rota patterns: this is also the case for obstetric and intensive care medicine sessions which are consultant delivered. Whilst such training opportunities are valuable, it is essential to ensure that every trainee’s programme of training remains balanced to accommodate their career needs as defined in The CCT in Anaesthesia [4].

- Time must be available for the smooth handover of work between shifts in the differing clinical areas covered by anaesthetists (i.e. theatres, maternity and ICM).
- The impact that Hospital at Night schemes may have on anaesthetists' workload within individual hospitals should be taken into account.
- *Non-resident on call rotas* would increase training opportunities significantly and some Trusts, particularly those with infrequent clinical work between 22.00 and 08.00, should consider this option seriously for rotas covering theatres; they are unlikely to be beneficial to those providing cover for ICM. Maximum contracted hours and working patterns are clearly outlined in the September Bulletin of the RCoA [5].
- *Directly supervised training sessions.* The RCoA considers that 3 half day (4 hour) supervised training sessions per week is the minimum acceptable: indeed trainees in years ST1/2 and FTSTA posts will need a significantly higher level of supervision. More senior trainees will need greater direct supervision in the more specialist areas of practice, however the RCoA also recognises that solo lists are an important part of training in the later years. Averaging training session numbers out over a 3-6 month period allows for such fluctuations in levels of supervision.
- *Dedicated "units of training".* Some "units of training" benefit from dedicated periods of day time in-theatre sessions (e.g. cardiac, neuro, and ICM): this must also be taken into account when Trusts construct rota patterns. In general, the greater the number of doctors on a rota, the easier they are to construct. It is clear from the example rotas (Appendix) that it is impossible to provide such training where trainee commitments to night time work is more onerous than 1 night in 8. Even with a 1:8 rota it is extremely difficult unless the numbers of full shifts are reduced between the hours of 22.00 and 08.00 (Appendix Rota 6).
- It is clear that adequate training opportunities cannot be obtained from any form of 1:7 rota that includes prospective cover (Appendix Rota 5) unless consultants were to provide 8 hours / day of direct clinical care to the week-end CEPOD type lists. In this instance it would be very important to ensure that a trainees programme of training did not become unbalanced by an excessive amount of "emergency anaesthesia" at the expense of other units of training.

### **Fatigue and risk**

The underlying effect of shift work on wake extension, sleep fragmentation, circadian rhythm, total sleep time and cognitive function is to cause fatigue, so

increasing the risk inherent in any task performed by a fatigued person. An analysis of the risk of shift working has to start with the degree of fatigue that a rota will cause. The underlying basis for the fatigue scale is the Karolinska Sleepiness Scale (KSS)<sup>1</sup>. High scores correlate well with the number of microsleeps that that individual has. The Health and Safety Executive has determined that the average Fatigue Index score is 20.7 and that any scores above this indicate that the degree of fatigue is likely to be unacceptable.

In many safety critical occupations it is the avoidance of serious events that is so important rather than reducing the impact of an event when it occurs (this makes data collection difficult as those most successful at coping with shift work will not have problems). The rail industry has a marker (signal passed at danger – SPAD) that can be used to identify the tip of the iceberg in their industry: there is no such signpost in medicine however that does not mean that doctors do not get dangerously fatigued and with that comes an increased risk of making errors.

The following have been identified as the major determinants for risk and fatigue:

- Relative risk increases as time on shift increases beyond 9 hours (both day and night)
- Relative risk increases as the number of consecutive nightshifts increase
- 20-40 minute “naps”, with appropriate rest facilities, counteract fatigue
- Longer shifts increase fatigue and this effect is cumulative
- The lowest levels of performance tend to occur between 03.00-06.00 and many fatigue related accidents occurred during the early morning.
- Fatigue and risk are both highest on the night shift however the risk of an incident occurring on an afternoon shift is higher than on a morning shift, whilst fatigue tends to be higher on morning shifts
- Consecutive day or night shifts increase risk
- As the number of consecutive night shifts increase, so does fatigue
- Enough “normal sleep” is required to recover from the sleep deprivation caused by shift working to enable a return to safe performance levels [6]

More information and the complete reports and calculator are available for download from <http://www.hse.gov.uk/research/rrhtm/rr446.htm>

In 2004, the Association of Anaesthetists of Great Britain and Ireland published a guideline entitled “*Fatigue and Anaesthetists*” which provides evidence and much helpful information and advice on this subject [6]. The RCP document “*Working the night shift: preparation, survival and recovery*” [7] also provides advice on how to cope with working night shifts

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<sup>1</sup> The KSS is a commonly used tool to measure levels of sleepiness and is a nine-point scale that ranges from 1 = very alert to 9 = very sleepy, great effort to stay awake or fighting sleep. Patients are asked to rate their sleepiness in the five minutes prior to taking the test. A score of 7 or more indicates pathological sleepiness.

Finally, fatigue inevitably impacts on learning, with an inability to retain and consolidate learning overnight. Given the reduced time for training, opportunities for learning should be maximised.

### **Rota options**

Because of the complexities of anaesthetic staffing and training methods within individual Trusts the RCoA does not wish to be prescriptive about rotas. Nevertheless, for full shift rotas the following principles should be considered:

- Shift lengths must not exceed 13 hours: shorter shifts may be beneficial.
- Ideally no more than 2 or 3 nights should be worked consecutively and these should be followed by 2 nights of uninterrupted sleep
- The Working Time Directive National Stakeholder Group has clearly stated that 7 x 13 hour night shifts must be strongly discouraged; the RCoA supports this view [8]
- In considering the ideal length of each shift, evidence on fatigue and risk (as outlined above) must be taken into account

It is important to note that rotas may have a mix of medical staff involved (i.e. trainees, SAS/Career and other 'Trust' doctors). Whilst trainee night work should not be more onerous than 1 in 8 (to ensure training is protected) non-training grades may work more intensely allowing rotas to be serviced by fewer doctors. This may not be very attractive to the non-trainees however as they may end up doing little else than deliver out-of-hours care within their 48 hour week. Further to this, there is evidence that those over 40-45 years of age should work fewer night shifts if they work them at all [9]. The views of the non-consultant staff involved should be sought early if such proposals are considered.

The increase in full shift working following the implementation of the 2004 WTD led the Academy of Medical Royal Colleges and the British Medical Association to recommend a minimum of 8 doctors per 'cell' for 56 hour rotas. Many departments of anaesthesia were only able to increase rotas to 1:6 at that time; for trainees on such rotas to maintain training time at the current level when the 48 hour week is introduced, night shift rota duties for each trainee should be no more onerous than 1:8 – indeed 1:10 (Appendix Rota 1) would be preferable. Consequently, ***to ensure the minimum acceptable training and experience is maintained the RCoA position is that trainee full shift night work is no more onerous than 1 night in 8.***

The Appendix gives a number of example rotas. In these worked examples each doctor takes an equal share of the nights worked: Rota 3 outlines the effect of a 1:8 shift pattern. Reducing the numbers of tiers of on call over the night time period increases training opportunities further (Appendix Rota 6): if leave arrangements are optimised by trainees and departments working together, there

are sufficient continuous non-shift weeks in this rota pattern to allow extended periods of dedicated units of training. Such rotas should be achievable if departments work collaboratively with surgical colleagues.

The length of the shift is critical, as is the number of consecutive nights worked.

- *Length of shift:* WTD compliance requires staff to work no more than 13 hours: if this period is exceeded the Trust may be referred to the Health and Safety Executive (HSE) which could result in a penalty fine or prosecution. As noted above, there is some evidence to suggest that 9 hour shifts are the safest for both doctors and patients however the Long Day (LD)/Long Night (LN) pattern allows greater training opportunities. The LD fits less well with the extended day concept: two 9 hour shifts provides better cover and fits well with the idea that this team of cover is lost for the night period.
- *Numbers of consecutive nights worked:* The RCoA supports the pattern of work recommended by The National Workforce Projects Team which clearly identifies the risks associated with working more than 4 consecutive full shift nights on a high intensity rota [8]. Shorter periods of consecutive nights on call may be beneficial as outlined above. Trusts should ensure that there are appropriate facilities for trainees to rest after working at night before driving home: the longer the shift, the greater the need.
- Trusts should consider using a mix of rotas – an example would be 9 hour shifts for emergency theatre cover, whilst the LD/LN pattern might be preferable on ICUs, reducing the number of handovers and may fit better with consultant work patterns. Where work patterns allow, the possibility of some rotas becoming non-resident should be considered seriously. This would then allow 1:7 rotas to provide more than adequate day time training opportunities.

## References

- 1) Horrocks N, Pounder R. *Designing safer rotas for junior doctors in the 48-hour week*. London: Royal College of Physicians, 2006.
- 2) Safe Shift Working for Surgeons in Training. Revised Policy Statement from the Working Time Directive Working Party of the Royal College of Surgeons of England 2007.
- 3) Who operates when? II. NCEPOD 2003
- 4) *CCT in Anaesthesia*. Royal College of Anaesthetists 2007.
- 5) Thornberry, A. European Working Time Directive 2009. A wake up call! *RCoA Bulletin* 45; **September 2007**: 2288-90.
- 6) *Fatigue and Anaesthetists*. The Association of Anaesthetists of Great Britain and Ireland, 2004. ([www.aagbi.org/publications/guidelines.htm](http://www.aagbi.org/publications/guidelines.htm))
- 7) Horrocks N, Pounder R. *Working the night shift: preparation, survival and recovery*. London: Royal College of Physicians, 2006.
- 8) National Stakeholder Group press release *Working Time Directive National Stakeholder Group discourages the use of 7 x 13-hour shift patterns*. January 2007. ([www.healthcareworkforce.nhs.uk](http://www.healthcareworkforce.nhs.uk))
- 9) Ahmed-Little Y. Implications of shift work for junior doctors. *BMJ* 2007; **334**: 777-8.

***The RCoA would welcome comments and discussion on this topic. Examples of 2009 compliant rotas that ensure training is protected and are working in practice would be particularly welcome. To do this Fellows should access the discussion board in the Regional Advisers, College Tutors and Programme Directors secure area: whilst not every Fellow has immediate access to this area, it can be accessed with the help of your own College Tutor.***

## APPENDIX

### ***WTD 2009: compatible rota's***

Several assumptions have been made in developing these example rotas.

1. Annual Leave (A/L) and Study Leave (S/L) entitlements. Both have been calculated as 6 weeks (i.e. 30 days)/yr The combined total = 60 days/yr i.e.1.15 day/week.
2. Prospective cover (PC): the use of such cover reduces normal working day time availability for training further. It has been suggested that 1-2 hrs/week is a reasonable estimate and this extra time must be taken into account. To illustrate the effect of PC on full-shift rotas, its effect has been included in the worked examples below with 2 hrs / week added to the 1:7 and 8 rotas, and 1hr / week to the 1:9 and 10 rotas.
3. 10 hours (08.00 – 18.00) have been allocated for the “normal” working day, allowing sufficient time for pre- and post-operative visiting
4. A minimum of 3 supervised sessions/week = 1.5 days/week
5. Long Day (LD) between 08.00 and 21.00 (13hrs)
6. Long Night (LN) between 20.00 and 09.00 (13 hrs)
7. Handover time between 3 and 4 above = 1 hr. *Note: this allows little room for error on overruns, as 13 hrs is maximum time allowed for work before the risk of referral to HSE is incurred..*



**Rota 1. 1:10 with 2 weekday LD/LN full shift cover and 3 LD/LN w/e cover.**

	Mon	Tues	Wed	Thurs	Fri	Sat	Sun	Hrs
1	<b>LD</b>	<b>LD</b>	OFF	OFF	<b>LD</b>	<b>LD</b>	<b>LD</b>	65
2	OFF	OFF	08.00-18.00	08.00-18.00	08.00-18.00			30
3	08.00-18.00	08.00-18.00	08.00-18.00	08.00-18.00	08.00-18.00			50
4	08.00-18.00	08.00-18.00	<b>LD</b>	<b>LD</b>	OFF			46
5	<b>LN</b>	<b>LN</b>	OFF	OFF	08.00-18.00			36
6	08.00-18.00	08.00-18.00	<b>LN</b>	<b>LN</b>	OFF			46
7	OFF	08.00-18.00	08.00-18.00	OFF	<b>LN</b>	<b>LN</b>	<b>LN</b>	59
8	OFF	OFF	08.00-18.00	08.00-18.00	08.00-18.00			30
9	08.00-18.00	08.00-18.00	08.00-18.00	08.00-18.00	08.00-18.00			50
10	08.00-18.00	08.00-18.00	08.00-18.00	08.00-18.00	08.00-18.00			50

- Total hrs worked in 10 weeks = 462 hrs
  - 1 hr /week then added for PC (10 hrs) = 472 hrs
  - **Average hours worked per week = 47.2 hrs**
- Total number of whole days available for training, A/L and S/L = 28
- Deduct 11 days for A/L and S/L (i.e. 1.1 day per week as identified in assumptions above) = 17 days for training (1.7/week)
- *If week day LDs are accompanied training sessions with consultants on day-time CEPOD type lists, this increases the number of days available for training over the 10 week period by 5 to 22 days in total, or 2.2/week.*

**Rota 2. 1:10 with 24 hr cover provided by 3 doctors Mon – Thurs and 2 doctors Fri – Sun (note the RCP preferred rota option)**

	Mon	Tues	Wed	Thurs	Fri	Sat	Sun	Hrs
1	<b>DAY</b>	<b>DAY</b>	08.00-18.00	OFF	<b>LD</b>	<b>LD</b>	<b>LD</b>	67
2	OFF	OFF	<b>DAY</b>	<b>DAY</b>	08.00-18.00			28
3	08.00-18.00	08.00-18.00	08.00-18.00	08.00-18.00	08.00-18.00			50
4	<b>EVENING</b>	<b>EVENING</b>	OFF	08.00-18.00	08.00-18.00			36
5	08.00-18.00	08.00-18.00	<b>EVENING</b>	<b>EVENING</b>	OFF			36
6	<b>NIGHT</b>	<b>NIGHT</b>	OFF	OFF	08.00-18.00			30
7	08.00-18.00	08.00-18.00	<b>NIGHT</b>	<b>NIGHT</b>	OFF			40
8	08.00-18.00	08.00-18.00	08.00-18.00	OFF	<b>LN</b>	<b>LN</b>	<b>LN</b>	69
9	OFF	OFF	08.00-18.00	08.00-18.00	08.00-18.00			30
10	08.00-18.00	08.00-18.00	08.00-18.00	08.00-18.00	08.00-18.00			50

**DAY:** 08.00-17.00 (9 hrs); **EVENING:** 16.00-24.00 (8 hrs); **NIGHT:** 23.00-09.00 (10 hrs)

- Total hrs worked in 10 weeks = 436 hrs
  - 1 hr/week then added for PC (10 hrs) = 446 hrs
  - **Average hours worked per week = 44.6 hrs**
- Total number of whole days available for training, A/L and S/L = 25
- Deduct 11 days annual/study leave = 14 days for training (1.4/week)
- *If week day “DAY” sessions + Friday LD are accompanied training sessions with consultants on CEPOD type lists, the number of days available for training over the 10 week period increases by 5 to 19 days in total, or 1.9 days/week*

**Note:** This rota does not provide as many training opportunities as the comparable rotas with Long Days and Long Nights (Rota 1).

**Rota 3. 1:8 with 2 weekday LD/LN full shift cover and 3 LD/LN w/e cover.**

	Mon	Tues	Wed	Thurs	Fri	Sat	Sun	Hrs
1	<b>LD</b>	<b>LD</b>	OFF	OFF	<b>LD</b>	<b>LD</b>	<b>LD</b>	65
2	OFF	OFF	08.00-18.00	08.00-18.00	08.00-13.00			25
3	08.00-18.00	08.00-18.00	08.00-18.00	08.00-18.00	08.00-18.00			50
4	08.00-18.00	08.00-18.00	<b>LD</b>	<b>LD</b>	OFF			46
5	<b>LN</b>	<b>LN</b>	OFF	OFF	OFF			26
6	08.00-18.00	08.00-18.00	<b>LN</b>	<b>LN</b>	OFF			46
7	08.00-18.00	08.00-18.00	08.00-18.00	OFF	<b>LN</b>	<b>LN</b>	<b>LN</b>	69
8	OFF	OFF	08.00-18.00	08.00-18.00	08.00-18.00			30

- Total hrs worked in 8 weeks = 357 hrs
  - 2 hrs/week then added for PC (16 hrs) = 373 hrs
  - **Average hours worked per week = 46.6 hrs**
- Total number of whole days available for training, A/L and S/L = 17.5
- Deduct 9 days annual/study leave = 8.5 days for training (1.1/week)
- *If week day LDs are accompanied training sessions with consultants on day-time CEPOD type lists, the number of days available for training over the 8 week period increases by 5 to 13.5 days in total, or 1.6/week*

**Rota 4 As for Rota 3 above, but with the 4:3 LD/LN pattern**

	Mon	Tues	Wed	Thurs	Fri	Sat	Sun	Hrs
1	<b>LD</b>	<b>LD</b>	<b>LD</b>	<b>LD</b>	OFF			52
2	08.00-18.00	08.00-18.00	08.00-18.00	OFF	<b>LD</b>	<b>LD</b>	<b>LD</b>	69
3	OFF	OFF	08.00-18.00	08.00-18.00	08.00-18.00			30
4	08.00-18.00	08.00-18.00	08.00-18.00	08.00-18.00	OFF			40
5	<b>LN</b>	<b>LN</b>	<b>LN</b>	<b>LN</b>	OFF			52
6	08.00-18.00	08.00-18.00	08.00-18.00	OFF	<b>LN</b>	<b>LN</b>	<b>LN</b>	69
7	OFF	OFF	OFF	OFF	OFF			0
8	08.00-18.00	08.00-18.00	08.00-18.00	08.00-18.00	08.00-18.00			50

- Total hours worked in 8 weeks = 362 hrs
  - 2 hrs/week then added for PC (16 hrs) = 378 hrs
  - **Average hours worked per week = 47.2 hrs**
- Total number of whole days available for training, A/L and S/L = 18
- Deduct 9 days annual/study leave = 9 days for training (1.1./week)
- *If week day LDs are accompanied training sessions with consultants on day-time CEPOD type lists, the number of days available for training over the 8 week period increases by 5 to 14 days in total, or 1.8/week*

**Note:** This demonstrates that the 4:3 pattern provides an additional half day for potential training time in an eight week cycle.

**Rota 5. 1:7 with 2 weekday LD/LN full shift cover and 3 LD/LN w/e cover.**

	Mon	Tues	Wed	Thurs	Fri	Sat	Sun	Hrs
1	<b>LD</b>	<b>LD</b>	OFF	OFF	<b>LD</b>	<b>LD</b>	<b>LD</b>	65
2	OFF	OFF	08.00-18.00	08.00-18.00	08.00-18.00			30
3	08.00-18.00	08.00-18.00	<b>LD</b>	<b>LD</b>	OFF			46
4	<b>LN</b>	<b>LN</b>	OFF	OFF	08.00-18.00			36
5	OFF	08.00-18.00	<b>LN</b>	<b>LN</b>	OFF			36
6	08.00-18.00	08.00-18.00	08.00-18.00	OFF	<b>LN</b>	<b>LN</b>	<b>LN</b>	69
7	OFF	OFF	08.00-18.00	08.00-18.00	08.00-18.00			30

- Total hrs worked in 7 weeks = 312
  - 2 hrs/week then added for PC (14 hrs) = 326 hrs
  - **Average hours worked per week = 46.6 hrs**
- Total number of whole days available for training, A/L and S/L = 13
- Deduct 8 days annual/study leave = 5 days for training (0.7/week)
- *If week day LDs are accompanied training sessions with consultants on day-time CEPOD type lists, number of days available for training over the 8 week period increased by 5 to 10 days in total, or 1.4/week*

**Note:** *With 2 hours per week added for the effects of prospective cover, such a rota **does not** provide sufficient training time **even when** the LD sessions are utilized. If consultants were providing direct clinical care to the week-end CEPOD type lists, and therefore these become supervised 8 hour training sessions, the 2 extra days would provide a total of 1.5 supervised sessions per week: in this instance it would be very important to ensure that a trainees programme of training did not become unbalanced by an excessive amount of “emergency anaesthesia” at the expense of other units of training.*

**Exploring the effects of reducing night time cover by 1 tier**

**Rota 6.**

**Three 1:8 LDs reduced to two 1:8 LNs (4 and 3 option as in Rota 4)**

	Mon	Tues	Wed	Thurs	Fri	Sat	Sun	Hrs
1	<b>LD</b>	<b>LD</b>	<b>LD</b>	<b>LD</b>	OFF			52
2	08.00-18.00	08.00-18.00	08.00-18.00	OFF	<b>LD</b>	<b>LD</b>	<b>LD</b>	69
3	OFF	OFF	08.00-18.00	08.00-18.00	08.00-18.00			30
4	08.00-18.00	08.00-18.00	08.00-18.00	08.00-18.00	08.00-18.00			50
5	<b>LN</b>	<b>LN</b>	<b>LN</b>	<b>LN</b>	OFF			52
6	OFF	08.00-18.00	08.00-18.00	OFF	<b>LN</b>	<b>LN</b>	<b>LN</b>	59
7	OFF	OFF	OFF	OFF	OFF			0
8	08.00-18.00	08.00-18.00	08.00-18.00	08.00-18.00	08.00-18.00			50
9	<b>LD</b>	<b>LD</b>	<b>LD</b>	<b>LD</b>	OFF			52
10	OFF	08.00-18.00	08.00-18.00	OFF	<b>LD</b>	<b>LD</b>	<b>LD</b>	59
11	OFF	OFF	08.00-18.00	08.00-18.00	08.00-18.00			30
12	08.00-18.00	08.00-18.00	08.00-18.00	08.00-18.00	08.00-18.00			50
13	<b>LN</b>	<b>LN</b>	<b>LN</b>	<b>LN</b>	OFF			52
14	OFF	08.00-18.00	08.00-18.00	OFF	<b>LN</b>	<b>LN</b>	<b>LN</b>	59
15	OFF	OFF	OFF	OFF	OFF			0
16	08.00-18.00	08.00-18.00	08.00-18.00	08.00-18.00	08.00-18.00			50
17	08.00-18.00	08.00-18.00	08.00-18.00	08.00-18.00	08.00-18.00			50
18	08.00-18.00	08.00-18.00	08.00-18.00	08.00-18.00	08.00-13.00			50
19	<b>LD</b>	<b>LD</b>	<b>LD</b>	<b>LD</b>	OFF			52
20	08.00-18.00	08.00-18.00	08.00-18.00	OFF	<b>LD</b>	<b>LD</b>	<b>LD</b>	69
21	OFF	OFF	08.00-18.00	08.00-18.00	08.00-18.00			30
22	08.00-18.00	08.00-18.00	08.00-18.00	08.00-18.00	08.00-13.00			50
23	08.00-18.00	08.00-18.00	08.00-18.00	08.00-18.00	08.00-13.00			45
24	08.00-18.00	08.00-18.00	08.00-18.00	08.00-18.00	08.00-13.00			45

- Total hrs worked in 24 weeks = 1095 hrs
  - 2 hrs/week then added for PC (48 hrs) = 1143 hrs
  - **Average hours worked per week = 47.2 hrs**
- Total number of whole days available for training, A/L and S/L = 64
- Deduct 27.5 days annual and study leave for 24 weeks = 36.5 days for training (1.5/week)
- *If week day LDs are accompanied training sessions with consultants on day-time CEPOD type lists, number of days available for training over the 24 week period increased by 15 to 51.5 days in total, or 2.1 days/week*

**Note:** There are sufficient continuous non-shift weeks to allow extended periods of dedicated units of training to be incorporated, provided A/L and S/L are taken carefully.