On-Call Scheduling – Trying for Equity

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"Why do I have more on-call than the next person on this schedule? This is not justifiable. I always get stuck with on-call…[grumble, grumble]." And so it goes!

Some cardiac cath labs' approach to on-call scheduling is with a request book, a committee, or supervisor determination of the on-call scheduled for one or two months in advance. This strategy allows the staff to request specific days "on" or "off" of call to accommodate known family events, doctor's appointments, etc. The great disadvantage is that cardiac cath lab staff can never predict very far in advance when they will be working. In addition, much time and effort are required to try to provide a fair distribution of on-call responsibility. Many of us know that even a little difference in assigned on-call can cause a great ruckus among the cardiac cath lab staff.

One solution you may want to consider is having a "rotating" schedule that has built-in equity and that repeats itself over a period of time, allowing the projection of on-call for years, if you wish. It allows you to tell a year in advance who is scheduled for on-call for Christmas, birthdays, or vacations.

Let me describe how it works. There are an infinite number of repeating patterns possible. Many, however, do not develop complete equity for a significant period of time. Below, I have described a simple method for generating multiple, rotating schedule templates, all of which will achieve complete equity in the theoretically shortest period of time.

To create a rotating template:

1. **Begin with a grid of "n" weeks, where "n" is the number of on-call staff in the group.** Let's do an example with nine (9) staff members. Therefore, there would be nine (9) weeks for the grid.

2. **Within this grid, begin by assigning your first person on-call days in the pattern you choose (Figure 1), beginning with week 1.** On-call can be assigned in any pattern whatsoever, as long as there is one and only one pattern. (You could assign a full week on and two weeks off, for example.) This is the key to equity in the system.

3. **Repeat the same pattern over and over again, but move down 1 week to start the pattern for the next person.**

Figure 1a shows an "every other weekday off" on-call template that runs over 2 weeks, with only the last Saturday and Sunday as consecutive, in order to avoid worker fatigue as much as possible. However, any pattern will work equitably, if the pattern is replicated. Do not extend the single pattern itself over too long a period, or the visibility and memory of equity could be lost.

When the pattern has been determined for first call person, it is duplicated for the next, but shifted forward one week. In other words, call person 2 replicates the exact same pattern, but begins it in week 2 of your grid (Figure 1b). Return to the top of the grid when the bottom is reached.

This pattern is repeated for the next on-call person 3 by again shifting forward one week to week 3 (Figure 1c). This technique can even be used when different numbers of people require different distributions. The results will always be equitable and predictable.

		Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
Week	1		On-Call Person 1 (begin pattern)		On-Call		On-Call	
Week	2			On-Call		On-Call		On-Call
Week	3	On-Call						
Week	4		On-Call		On-Call		On-Call	
Week	5			On-Call		On-Call		On-Call
Week	6	On-Call						
Week	7		On-Call		On-Call		On-Call	
Week	8			On-Call		On-Call		
Week	9	On-Call						
Totals 21		3	3	3	3	3	3	3

Figure 1a. Schedule for call person 1 using a two-week "every other weekday off" on-call template, with the last Saturday and Sunday as consecutive on call.

		Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
Week	1	On-Call						
Week	2		On-Call Person 2 (begin pattern)		On-Call		On-Call	
Week	3			On-Call		On-Call		On-Call
Week	4	On-Call						
Week	5		On-Call		On-Call		On-Call	
Week	6			On-Call		On-Call		On-Call
Week	7	On-Call						
Week	8		On-Call		On-Call		On-Call	
Week	9			On-Call		On-Call		On-Call
Totals 21		3	3	3	3	3	3	3

Figure 1b. The same schedule starts in week 2 for call person 2 (after week 9, come up to the top of the grid to finish filling in days).

		Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
Week	1			On-Call		On-Call		On-Call
Week	2	On-Call						
Week	3		On-Call Person 3 (begin pattern)		On-Call		On-Call	
Week	4			On-Call		On-Call		On-Call
Week	5	On-Call						
Week	6		On-Call		On-Call		On-Call	
Week	7			On-Call		On-Call		On-Call
Week	8	On-Call						
Week	9		On-Call		On-Call		On-Call	
Totals 21		3	3	3	3	3	3	3

Figure 1c. The same schedule starts in week 3 for call person 3 (after week 9, come up to the top of the grid to finish filling in days).

This pattern is repeated, always shifting forward one week, until the last on-call person, number 9, has been assigned. My call team requires three (3) staff on call. The pattern shown in Figures 1a-c runs such that persons 1, 4, and 7 will share the same call days in this schedule.

This pattern is equitable. Staff will complete filling the schedule for on-call and will always have, in this example, 21 days of on-call, regardless of the initial pattern chosen. Since each on-call person has one pattern and only one pattern in the grid, it is equal, and since the grid may be repeated multiple times, it is rotating and hence predictable.

To provide change in personnel interactions, have the nurses' schedule shift down 1 week and have the technologists shift up 1 week in the rotation of labs. That would provide a mix that would be equitable and predictable as well.

There are other consideration that must be accounted for. After everyone is scheduled equitably following the rotating pattern, at this point, we incorporate the individual needs or preferences and holidays regarding on-calls. The on-call can be traded or given to another person. The originally assigned staff member is responsible for coverage. It does not matter that someone is covering for you; you have ownership of providing on-call for that date. If you don't help others and provide coverage when they need help, don't expect help when you want someone to cover an on-call for you.

This is the devil in the details. The smaller the staff, the less leeway you have to negotiate. This is where relationships are strained. Compromise is the goal. With an equitable, rotating, long-term schedule, more opportunities for trading exist. We all want to control our lives. We are a special breed — we work in the cardiac cath lab and our work is to serve and save lives at all hours, both day and night. We make that sacrifice of family time and sleep, and are willing to work from daylight through the night until daylight again to save cardiac muscle and a life.

In some states, regulations are pending that say after 18 hours of work there must be at least an eight (8)-hour break. Eighteen hours can easily happen after a day of work with late cases. Add in a few emergency cases, and you have reached 18 hours of work. I remember (maybe not so clearly) a thirty-seven hour day. Based on existing evidence, caution should be exercised whenever an assignment is expected to exceed 12 hours in a 24-hour time period or 60 hours in a 7-day time period. Health care worker fatigue and patient safety is a growing concern and Joint Commission is beginning to focus on this area. The on-call schedule may require a larger pool of staff to provide ample staffing for coverage.

There are many options or solutions to on-call scheduling. You must find one that is equitable, fair, and easy to predict, in order to avoid the rumble and grumble of a staff that sees you as being unfair. Be courageous and strong. My suggestion may work for your cardiac cath lab. I like predictability, too! ■

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Just in case you were wondering about holidays, the two charts below may help you keep track of who covered which holiday and what the future holds for your predictions!

"In essence, if we want to direct our lives, we must take control of our consistent actions. It's not what we do once in a while that shapes our lives, but what we do consistently."

Tony Robbins

Operating Status and Schedule, Cardiac Cath Labs: Who *was* on-call?

	2006	2007	2008	2009	2010	2011	2012
New Year's Day	Sunday, January 1	Monday, January 1	Tuesday, January 1	Thursday, January 1	Friday, January 1	Saturday, January 1	Sunday, January 1
Memorial Day	Monday, May 29	Monday, May 28	Monday, May 26	Monday, May 25	Monday, May 31	Monday, May 30	Monday, May 28
Independence Day	Tuesday, July 4	Wednesday, July 4	Friday, July 4	Saturday, July 4	Sunday, July 4	Monday, July 4	Wednesday, July 4
Labor Day	Monday, September 4	Monday, September 3	Monday, September 1	Monday, September 7	Monday, September 6	Monday, September 5	Monday, September 3
Thanksgiving Day	Thursday, November 23	Thursday, November 22	Thursday, November 27	Thursday, November 26	Thursday, November 25	Thursday, November 24	Thursday, November 22
Christmas Day	Monday, December 25	Tuesday, December 25	Thursday, December 25	Friday, December 25	Saturday, December 25	Sunday, December 25	Tuesday, December 25

Operating Status and Schedule, Cardiac Cath Labs: Who *will be* on-call?

	2013	2014	2015	2016	2017	2018	2019	2020
New Year's Day	Tuesday, January 1	Wednesday, January 1	Thursday, January 1	Friday, January 1	Sunday, January 1	Monday, January 1	Tuesday, January 1	Wednesday, January 1
Memorial Day	Monday, May 27	Monday, May 26	Monday, May 25	Monday, May 30	Monday, May 29	Monday, May 28	Monday, May 27	Monday, May 25
Independence Day	Thursday, July 4	Friday, July 4	Saturday, July 4	Monday, July 4	Tuesday, July 4	Wednesday, July 4	Thursday, July 4	Saturday, July 4
Labor Day	Monday, September 2	Monday, September 1	Monday, September 7	Monday, September 5	Monday, September 4	Monday, September 3	Monday, September 2	Monday, September 7
Thanksgiving Day	Thursday, November 28	Thursday, November 27	Thursday, November 26	Thursday, November 24	Thursday, November 23	Thursday, November 22	Thursday, November 28	Thursday, November 26
Christmas Day	Wednesday, December 25	Thursday, December 25	Friday, December 25	Sunday, December 25	Monday, December 25	Tuesday, December 25	Wednesday, December 25	Friday, December 25