



Management Tools for Internists DESIGNING THE PATIENT SCHEDULE

Summary

Smooth and efficient appointment scheduling is critical to patient satisfaction, physician efficiency and staff morale. Obvious signs of a scheduling system in need of reevaluation include: physicians frequently lose time waiting for the next patient to arrive, patients experience long frustrating waits to be seen, and/or staff or physicians miss lunch or cannot leave on time because schedules run late.

The patient scheduling techniques outlined below can be powerful tools. But first the practice must define its particular problems. Scheduling techniques then should be tailored to address the identified problems. The scheduling approach selected must support both physician efficiency and overall patient satisfaction. Neither should take precedence over the other because perfect efficiency can drive patients away while unreasonable attempts to accommodate the wishes of every patient may satisfy a few patients at the expense of everyone else.

Patient scheduling techniques are most effective in reducing physician down time and delays due to unevenness in patient visit lengths. Different measures are needed to address such related patient flow problems as a high no-show rate, a bottleneck in moving patients back to exam rooms, a slow physician, or an excessive patient volume. In these cases, scheduling adjustments can play a helpful, but supportive role in correcting the problem.

Redesigning the Schedule

Because the patient scheduling system has such broad impact on operations throughout the practice, any contemplated change should be considered carefully. A rigorous process in redesigning the scheduling plan should be followed. We recommend the following steps:

- 1) *Establish a visits¹-per-day target as the starting point for designing the patient schedule.*
 - Determine how many patients a physician needs to see each day to meet the practice's financial objectives. The temptation to "fix" a hectic schedule simply by cutting the number of patient visits can be a short route to bankruptcy. First calculate the practice's average receipts per visit by dividing total annual office visits into total office receipts (don't count hospital and other non-office receipts or visits).² Then divide your receipts-per-visit figure into the total funds needed to cover yearly office operations (i.e., all office related expenses, including an appropriate share of physician expenses—again, leave out hospital and other expenses unrelated to office visits).³ The result is the practice's annual number of visits required to support all office related expenses. Break this figure down by the number of physicians and by the number of days per year each physician actually sees patients.⁴ You now have the average number of visits-per-day required of each physician. (See Table 1 for calculations.)

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Table 1

1 If available in the practice, RBRVS or other relative value units may be substituted for visits to provide more detailed targets.	
2 r = total office receipts v = total annual office visits	$r \div v = r/v$
3 f = total funds needed to cover (bv) yearly office operations	$f \div r/v =$ necessary annual visits to break even
4 bv = break even visits n = number of MDs dw = days worked per year	$bv \div n =$ annual visits required per MD $bv/n \div dw =$ visits per day required per MD

If physician compensation varies significantly within a group practice, the above calculation can be performed separately for each physician, using actual compensation expenses attributable to that particular physician.

- Compare the visits-per-day target against your actual average for several representative weeks during the past year. Also use this historical data to calculate average current visits-per-hour based on scheduled start and stop times for morning and afternoon sessions. If the physician tends to run late, also calculate the visits-per-hour based on actual, instead of planned, stopping times. These calculations will give you a good feel for the nature of the challenge you face and how to go about addressing it.
- 2) *To determine how much time is needed for different types of patient visits, follow these steps:*
 - Review your patient visit schedules over a period of weeks. Make a list of the major types of clinical problems and procedural visits the practice is seeing; note their frequency. This information will help you to allocate the schedule among patients with different conditions, different levels of complexity, and therefore different time requirements.
 - Figure out what mix of patients you need to see in a given week and day. Consider the required number of annual physicals, pre-op and post-op patients, consults, special procedures and other types of appointments. Determine the mix to include in each full day, and in each half day session.
 - Use the list of basic types of patient problems and visits to estimate the time you believe each one requires. Discuss the actual visit times with staff and physicians. Then refine the data by tracking actual “in” and “out” times for some of the most frequent visits for a few days. Revise your list accordingly.
 - 3) *Create a chart.*
Divide the above list of problem and visit types into three categories: short visits, medium visits and long visits.
 - 4) *Define time increments that work.*
Define the time increment (usually 10 or 15 minutes) that works best in constructing appointments that closely match the time actually spent on the different kinds of visits you have identified. For example: 10 minute increments yield 10, 20 and 30 minute (short, medium and long) visit options, while 15 minute increments permit 15, 30 and 45 minute appointments.

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- 5) *Experiment on paper with different scheduling designs.*

Check out the “Alternative Scheduling Approaches” listed below. Use your selected time increments and mixes of standard appointment categories to find a model that meets your needs. There are blank scheduling templates on pages 13 and 14 that you can use to customize your schedule. Once you have sketched an approach that seems to work well, verify that it produces the number and types of visits per day you need. When you are satisfied with the design, you might try a “dry run” in your office. There are some problems, however, with doing so: experimental scheduling is disruptive to patients; it is difficult to simulate in the short run how well the system will run once it is “debugged” and the staff is comfortable with the changes; and many computer scheduling systems use fixed templates that require too much set-up time for quick experiments.
- 6) *Take time to set up and provide guidance to staff.*

When the new system is ready to go, make a final “problems” list (see attached sample) showing the usual kinds of visits and the time allocations you have given to each. Note any problem types that require nursing triage before determining the need for, or length of, appointments. If possible, incorporate this list into the computer scheduler so appointments can be booked automatically with the appropriate time allocations. Train your appointments staff to use the list and print copies of it for them to use as a ready reference tool.
- 7) *Put the new scheduling scheme into operation.*

Alternative Scheduling Approaches

Each physician office has its own scheduling needs and problems and there are a number of options to consider before settling on one scheduling technique. Review these tools and patterns to help you customize an approach that meets the needs and unique problems of your office. Feel free to borrow, mix and adapt elements to achieve your objectives. See pages 7–12 for examples of schedules using these techniques.

- **Double booking.** Double booking appointments is a basic technique for minimizing down time by ensuring that there always is a patient ready to be seen when the physician is available. Some physicians, who are adept at working multiple patients simultaneously in several exam rooms, also use this technique to handle heavy workloads. While double booking can increase physician productivity, it is a rather blunt instrument. It relies on the physician’s innate ability to modulate time imbalances throughout the day and to “catch up” as needed to finish on time. It creates an incentive for patients to arrive on time (first come, first-served), but it can irritate patients who must wait through no fault of their own. Double booking also can be used effectively to address specialized needs, such as jump starting the morning and afternoon sessions, and interspersing established patients with new ones, so that an established patient is seen while a new one completes necessary paperwork. Other more refined techniques (modified wave, staggered starts, etc.) also incorporate the benefits of double booking.
- **Like Visits Together.** Efficiency tends to increase when patients with similar health status or chronic conditions are scheduled close together. Industry long ago discovered that repetition of the same task eliminates set-up time, permits continuous work flow and accelerates process speed. In the medical field, school physicals and health fairs sometimes are organized as assembly lines. Without going that far, some physicians find they are more productive scheduling certain categories of patients back-to-back. For example, bunching together several straight-forward follow-up visits may enable a physician to work through the group quickly and thus gain time in the schedule for more complex patients later in the day. Specialized clinics for chronic conditions, e.g., preventive cardiology, also are an efficient way to organize the repetitive services and specialized attention required by such patients. Finally, the basic concept of

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organizing like visits together is helpful in designing other more complex scheduling approaches, such as a group session or modified wave schedule.

- **Ten Minute Increments.** Internists traditionally design schedules around 15 minute time increments, thus producing standard appointments of 15, 30 and 45 minute durations. In contrast, pediatric practices, and some family practice groups, tend to use 10 minute increments with resulting planned visits of 10, 20, 30 and 40 minutes. If your tracking data indicates that the actual time an internist requires to see patients in your practice is closer to the 10 minute increment pattern, the practice may benefit by changing the scheduling increment.

By calibrating scheduled time closer to actual visit time, physicians can reduce down time and the need for double booking. The issue requires careful study; however, to be sure that time gained in one patient category is not lost in another. For example, when elderly patients are scheduled for 20 minute appointments because they require a bit more time than the standard 10 minute visit, five minutes may be wasted. If this is a frequent occurrence, 15 minute increments may work better. Theoretically, a five minute increment system could eliminate this dilemma by making all time options available. It increases the complexity for scheduling personnel, however; and some computer systems cannot handle it well. Compare the trade-offs in all of the visit categories to determine which time increment works best for you.

- **Modified Wave Scheduling.** In a modified wave system, patient appointments overlap so that when one patient is late arriving or a visit finishes early, another patient is waiting to be seen by the physician. Patient appointments also are clustered to create heavier volume at the beginning of the hour and at the beginning of each clinical session. Initial overlapping (or double booking) of appointments tapers off toward the end of each hour; thus any backlog of patients is relieved before the next wave starts. Ideally, a constant flow of patients smooths out any imbalances in the lengths of visits, but no patient is delayed by more than a few minutes beyond the scheduled appointment time. Physicians see more patients in a day, and patients face fewer frustrating waits.

Designing the visit mix of the clusters, and the degree of overlap between patients, requires some creativity and experimentation. First, determine how many visits of each length (short, medium and long) need to be worked into the morning and afternoon sessions to satisfy normal demand. Then develop the model scheduling pattern and the amount of visit overlap. While any combination of short, medium and long visits is possible, interspersing shorter visits with longer ones tends to simplify the balancing process. Finally, decide how to front load the start and taper off the end of each session so that the whole session runs on time. See pages 7–9 for sample wave schedules. There are also blank versions on pages 13 and 14 that you can reproduce and use to customize your own schedule.

Modified wave scheduling is an alternative to *fixed-wave scheduling*—where several patients are scheduled to arrive simultaneously, regardless of their symptoms or conditions. They are then seen on a first-come, first-served basis. Patients at the end of the queue tend to experience long delays while physicians and staff work under the constant stress of a hefty backlog. Patient satisfaction and office morale are compromised in scheduling the optimum number of patients per day.

- **Staggered Starts.** If a modified wave schedule is not appropriate, some of the same benefits can be achieved by staggering visits in five or 10 minute intervals. One patient can be scheduled for a 15 minute visit beginning at 9 a.m. and the next one at 9:05 a.m. If the first patient arrives late, only five minutes are lost before the second patient arrives. If the next set of patients is scheduled at 9:20 and 9:25, the physician hopefully can work in the late patient without delaying anyone else by more than five or 10 minutes. This approach is particularly useful at the beginning of a

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session to prevent the first patient from throwing off the whole day's schedule by arriving late, or not showing at all. It also may be useful during the rest of the day in practice settings where patients tend to be late or the lengths of visits are particularly unpredictable. Visits still overlap, but the workload is spread out somewhat and patients are less aware of double bookings.

- **Group Meetings** Group scheduling is an alternate method of processing patients with similar, often chronic, conditions. By seeing such patients as a group, some physicians have found they can save time, create a highly supportive atmosphere, and devote more time to patient education and health issues than would be possible during traditional office visits.

During group sessions, patients' concerns are addressed and discussed both with the physician and with peers who are experiencing similar problems. Patients see that extensive resources are being devoted to their education and care, and most importantly, that they are not alone. Providers avoid repetitious delivery of the same information. Guest speakers may be invited, and educational tools such as videos and demonstrations may be used. General health issues, such as the need for seasonal flu shots, proper nutrition and exercise can be presented more easily in this type of setting. Group sessions also are an efficient way to organize patients for a variety of individual procedures, such as immunizations, simple blood tests and blood pressure checks.

The following is a sample sequence of events for a group session:

- Patients arrive, are welcomed and seated by physicians and other staff.
- A nurse or physician presents patient education information and advice on the disease or condition common to the group. The physician answers questions of common interest, followed by a group discussion, often led by a nurse.
- Guest speakers, such as nutritionists or physical therapists, address the group and answer questions.
- At the end of the session, the physician(s) sees each patient individually and discusses specific problems. Nurses simultaneously check other patients' vitals, perform blood and other tests normally required in follow-up visits for their condition(s).

Primarily used by large staff-model HMOs, group sessions have increased productivity, reduced utilization, and enhanced health maintenance. If a sufficient number of patients can be grouped together appropriately, the technique works in small private practices as well. Even physicians in traditional fee-for-service settings may find that the ability to see 25 patients in a relaxed morning session is a tempting option.

Reimbursement for group visits is not an issue with capitated patients, nor with "bundled" fee services, such as obstetrics. However, in more traditional fee-for-service settings, coding and reimbursement issues, especially for Medicare patients, should be investigated in advance with the third party payer. The service ought to qualify for the appropriate evaluation and management code so long as all required elements for that visit level are appropriately documented in the medical chart. But you may have to convince the Medicare intermediary that the extra time allocated to the patient in the group session counts—not just the time spent one-on-one with the physician. We also would caution against attempting to code the service above the level at which it normally would have been recorded if performed as an individual visit. (For more detailed information about the various types of group visits, go to http://www.acponline.org/running_practice/patient_care/group_visits/.)

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Other Problems that Affect Patient Flow

While patient scheduling techniques can correct some problems, they are not a cure-all. Listed below are a number of patient flow problems that generally are not attributable to scheduling design. Scheduling may play a supportive role in their correction, but more fundamental solutions are required. The scope of this paper permits only brief reference to those corrective measures. Suffice it to say that a practice must take control of its patient flow, both for its own sake and for that of its patients. If not addressed, these problems can disrupt patient flow, physician productivity and even the best patient scheduling schemes.

- **No shows.** The practice needs a clear policy regarding patients who fail to cancel appointments at least 24 hours in advance. Unless there is a deterrent, such behavior can become habitual. It is unfair and costly to the practice. Imposing a charge for missed visits is one reasonable option—especially for repeat offenders and in situations where no compelling circumstance explains the patient’s failure to call. Introduction of such policies requires plenty of advance notification, publication in practice brochures, patient education, and perhaps prior warning to repeat offenders.
- **Late arrivals.** Unusual events can throw anyone off schedule, but the practice needs a policy on how long it will wait before rescheduling the visit. To deter such behavior in the future, the patient must be made well aware in advance of the policy (see suggestions under no shows above). Any late patient arriving before the rescheduling deadline should be worked in only at the convenience of other patients—no other patient should be delayed because of the late patient’s tardiness. Chronically late and no-show patients might also be booked toward the end of the day to minimize disruption to the rest of the schedule and inconvenience to other patients.
- **Waiting room bottleneck.** There are several causes of this problem: a traffic jam at the front desk (which probably can be eliminated by creating a separate check-out desk); inadequate staffing to move the patients back to the exam rooms in a timely fashion; too few exam rooms in which to prepare patients for the doctor, etc.
- **Irrational scheduling.** When patients are scheduled for periods of time that are predictably too long or too short, it usually means that training of non-clinical staff is deficient or that clinical personnel have not adequately defined the protocols for determining desired scheduling time frames.
- **“Walk-ins.”** Truly acute cases must be seen immediately, whether they call in the same day or actually walk in unannounced. Most practices reserve a few slots for such circumstances, especially in the morning. When the volume of such cases exceeds the supply of acute slots, double booking and wave scheduling can help. At some point, however, especially in a managed care setting, it is important to review the nature of these walk-ins to be sure they truly are necessary. If not, patient education and the insertion of a triage nurse in the scheduling process may direct patients to other appropriate options, including self care and scheduled future visits.
- **Doctor’s capacity.** Some physicians simply are faster and can see a heavier load of patients than others. Sometimes the appointments’ staff can schedule the volume of patients accordingly. But, for reasons of total practice workload or financial requirements, that is not always feasible. Grouping together the routine follow-up cases may help a more methodical physician get through several patients quickly, thus freeing up the schedule to spend more time on complex cases later in the day. Little research is available on the differences in approach between slower and faster physicians. Getting to the root of the problem early in the visit; focusing fairly strictly on the problem presented; and trusting one’s initial assessment are three characteristic techniques employed by high-productivity physicians. Talking to and observing such colleagues may provide additional insight to help you speed up your own patient visits, without sacrificing patient satisfaction.

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- ***Patients with “extra” problems.*** Patients who are scheduled for one problem and come in with six can put any physician behind schedule, and the pattern can become chronic. When the add-on list is too long, the physician must learn to politely schedule additional time at another appointment—otherwise everyone suffers.
- ***Overwhelming patient volumes.*** If the volume of patients is well beyond reasonable norms for the specialty, more providers probably are needed. Changing scheduling techniques only will produce a water balloon effect. If the physician’s daily schedule in the office is unnecessarily compressed, however, adjustments can add hours for scheduling patient care. Doing so may be sufficient to decompress the schedule and even increase profitability. A normal schedule for primary care physicians includes 30+ hours per week of actual patient care in the office, not counting mid-day breaks or other down time. Anything less is likely to produce either inadequate revenue or a very hectic patient schedule. Trying to squeeze out a two-hour break at mid-day to round, make phone calls, etc., also is likely to put pressure on the practice and to raise the expense ratio. Staff expenses continue during the physician’s extended mid-day absence, but productivity tends to decline.

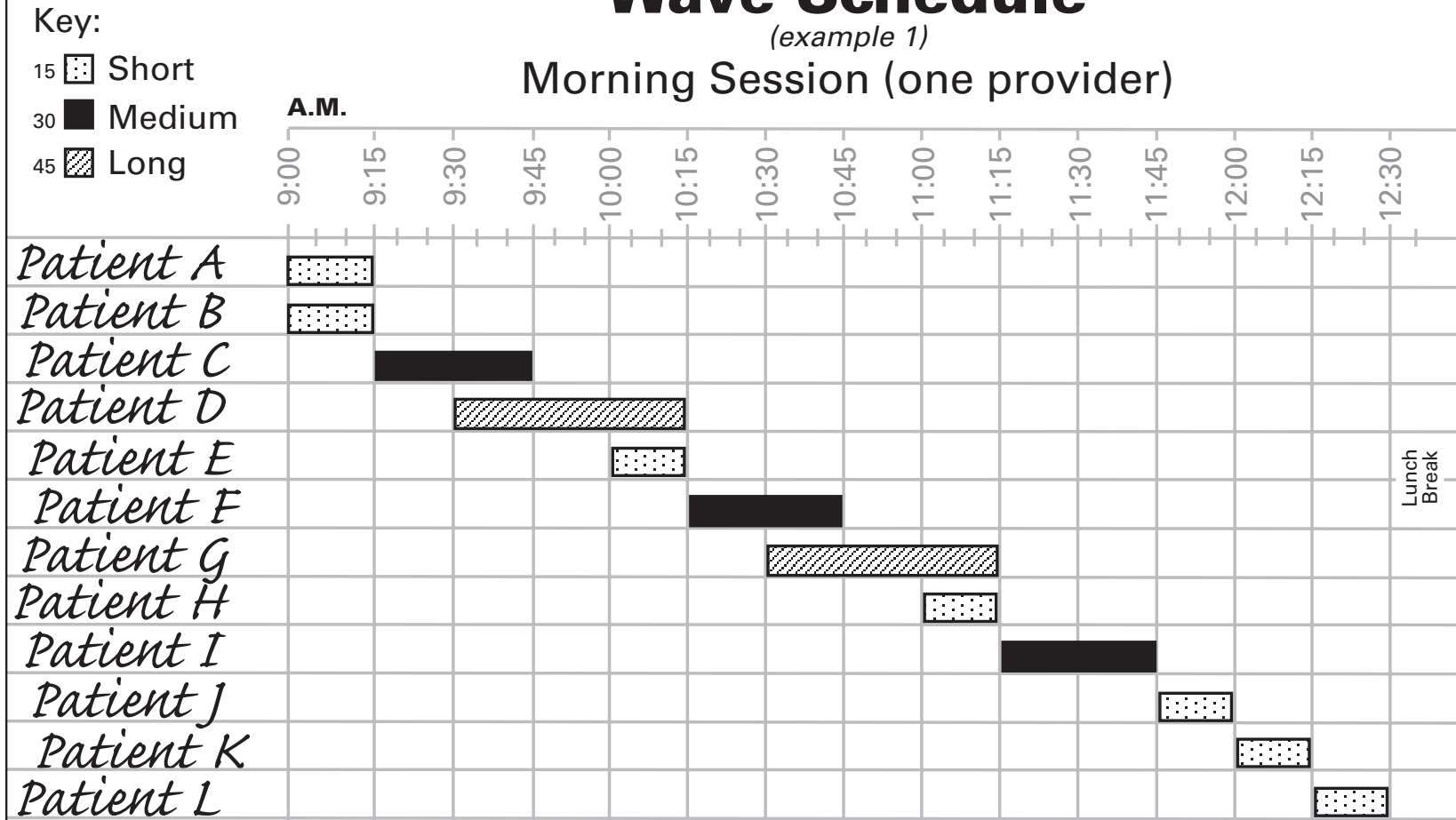
Conclusion

Some illustrative samples of schedules and a problems list follow to help you develop your schedule templates. Once you have devised a scheduling system that suits your practice’s needs, make sure that your facilities and staff resources are adequate for the scheduling approach you have chosen. For instance, practices with too few exam rooms may have difficulty accommodating the simultaneous arrival of several patients. Your computer scheduling system may impose rigidities on the time increments, overlapped booking, scheduling variations among physicians, sites, or even days. Don’t forget to train staff carefully in how to use the scheduling scheme you devised. Involve them in its design and give them protocols, cheat sheets and other simplified guidance to follow. Finally, conduct periodic satisfaction surveys to measure the success of the scheduling system, learn of any frustrations your patients still are experiencing, and invite their suggestions for improvement.

Wave Schedule

(example 1)

Morning Session (one provider)



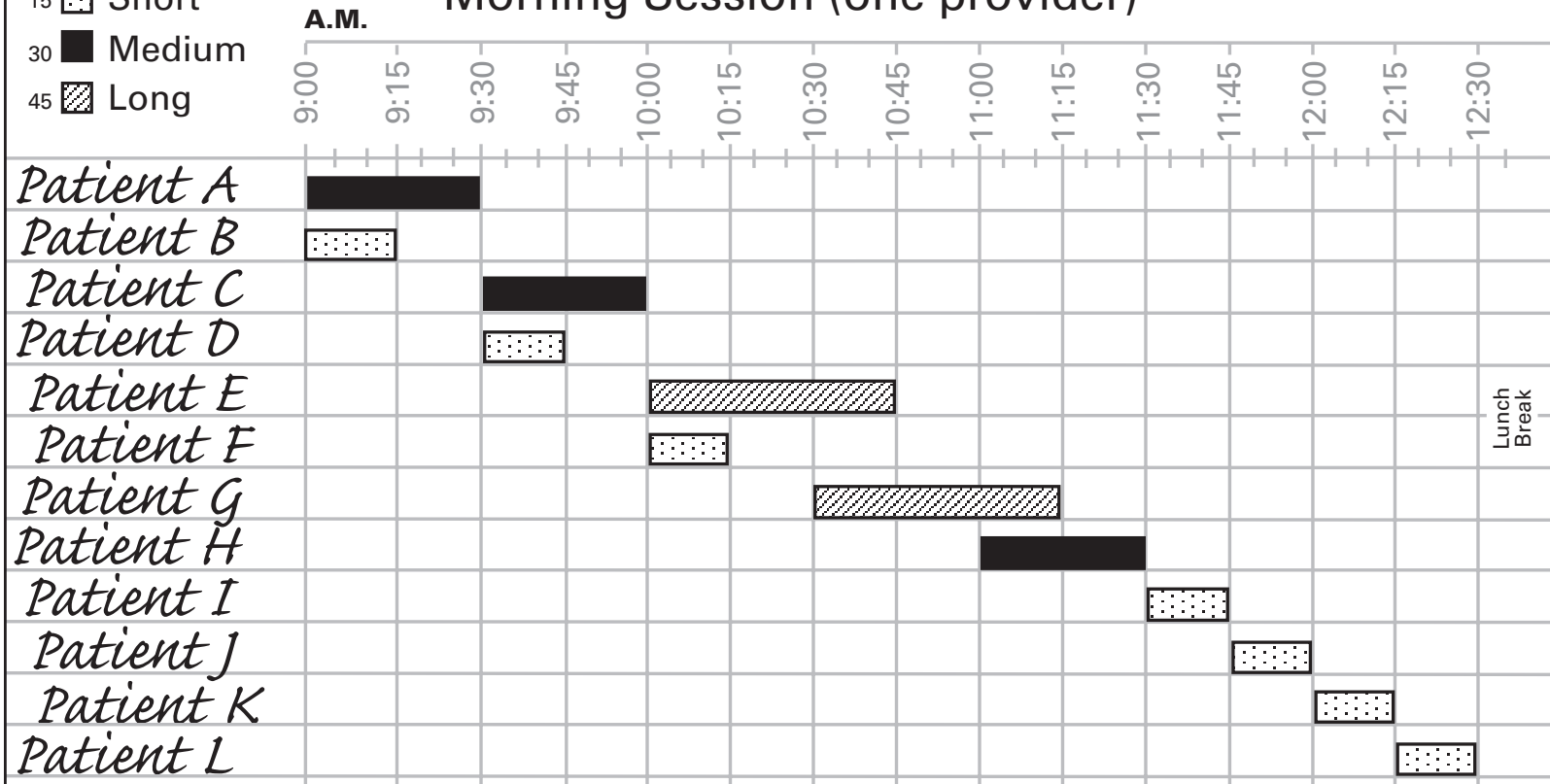
Wave Schedule

(example 2)

Morning Session (one provider)

Key:

- 15  Short
- 30  Medium
- 45  Long



Wave Schedule

(example 3)

Morning Session (one provider)

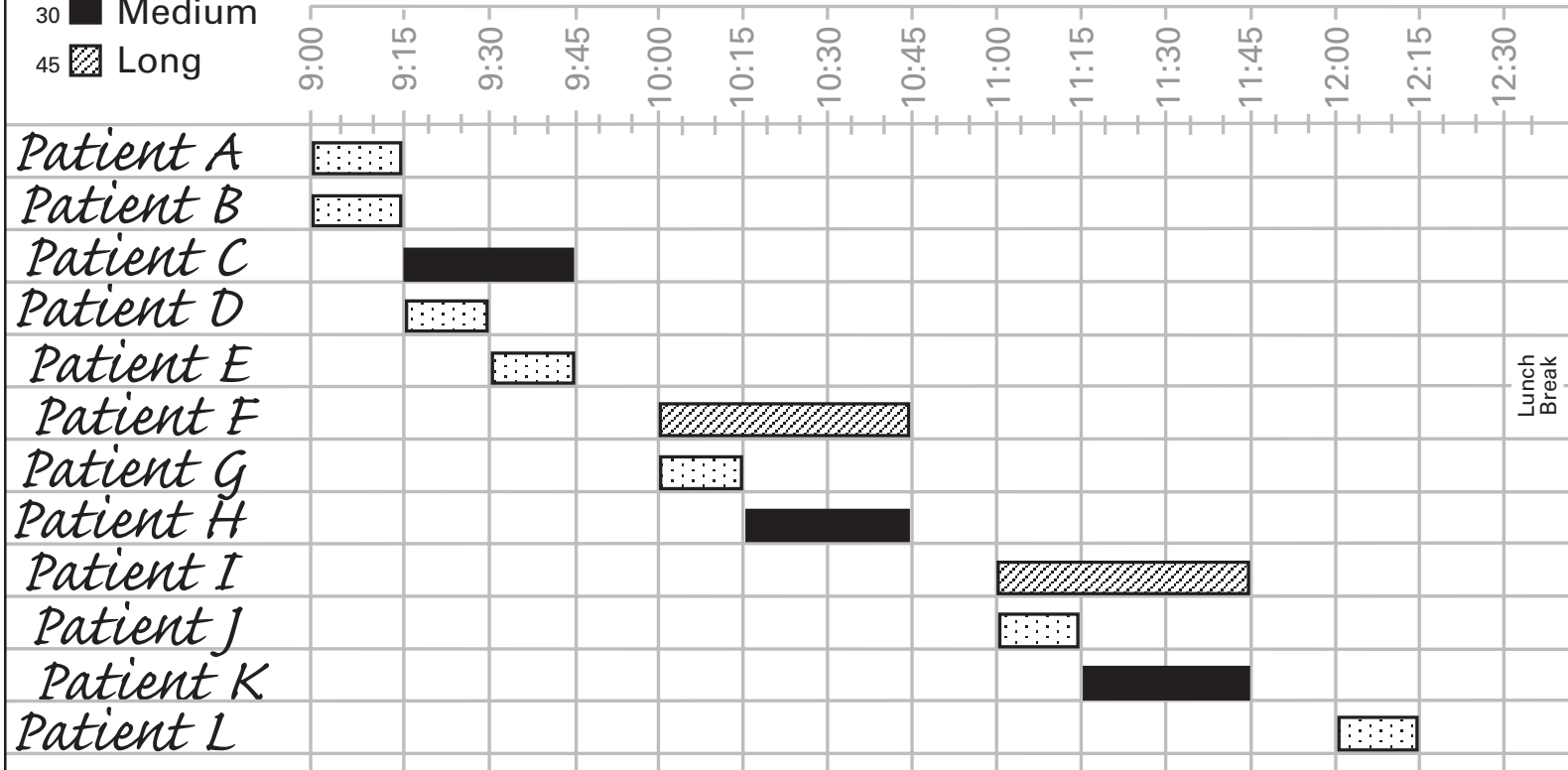
Key:

15  Short

30  Medium

45  Long



A.M.

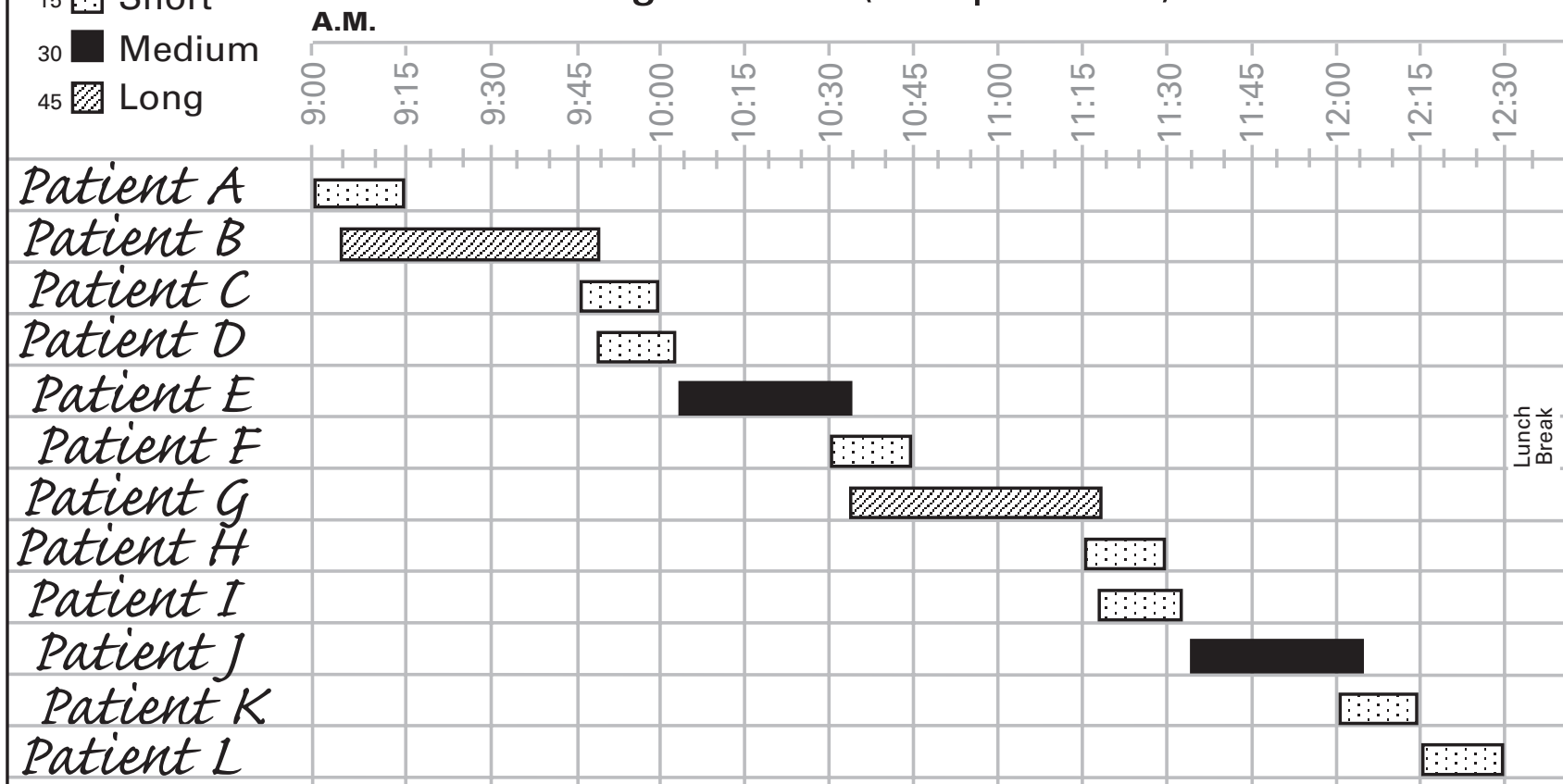


Staggered-Start Schedule

Morning Session (one provider)

Key:


- 15  Short
- 30  Medium
- 45  Long

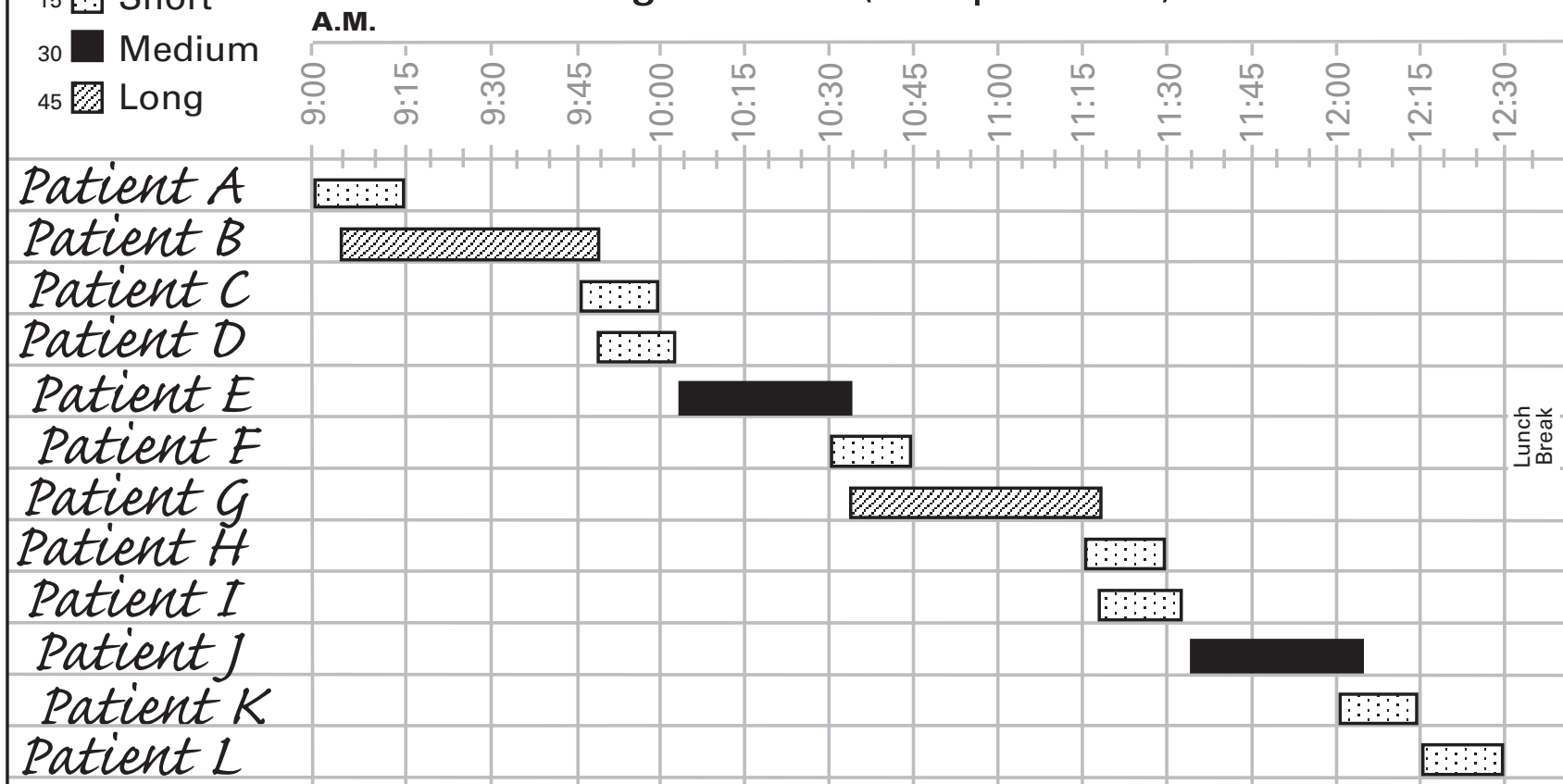


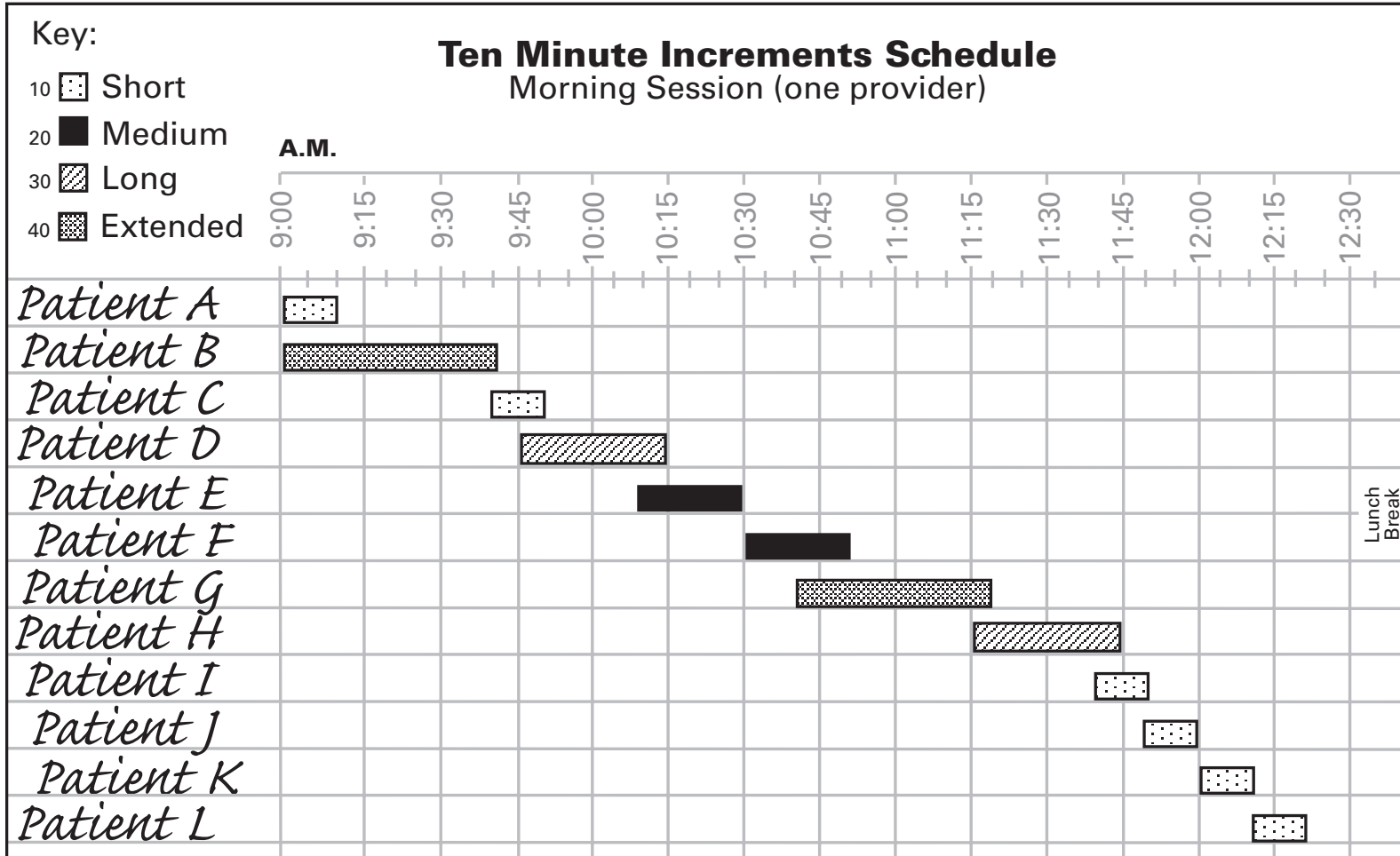
Staggered-Start Schedule

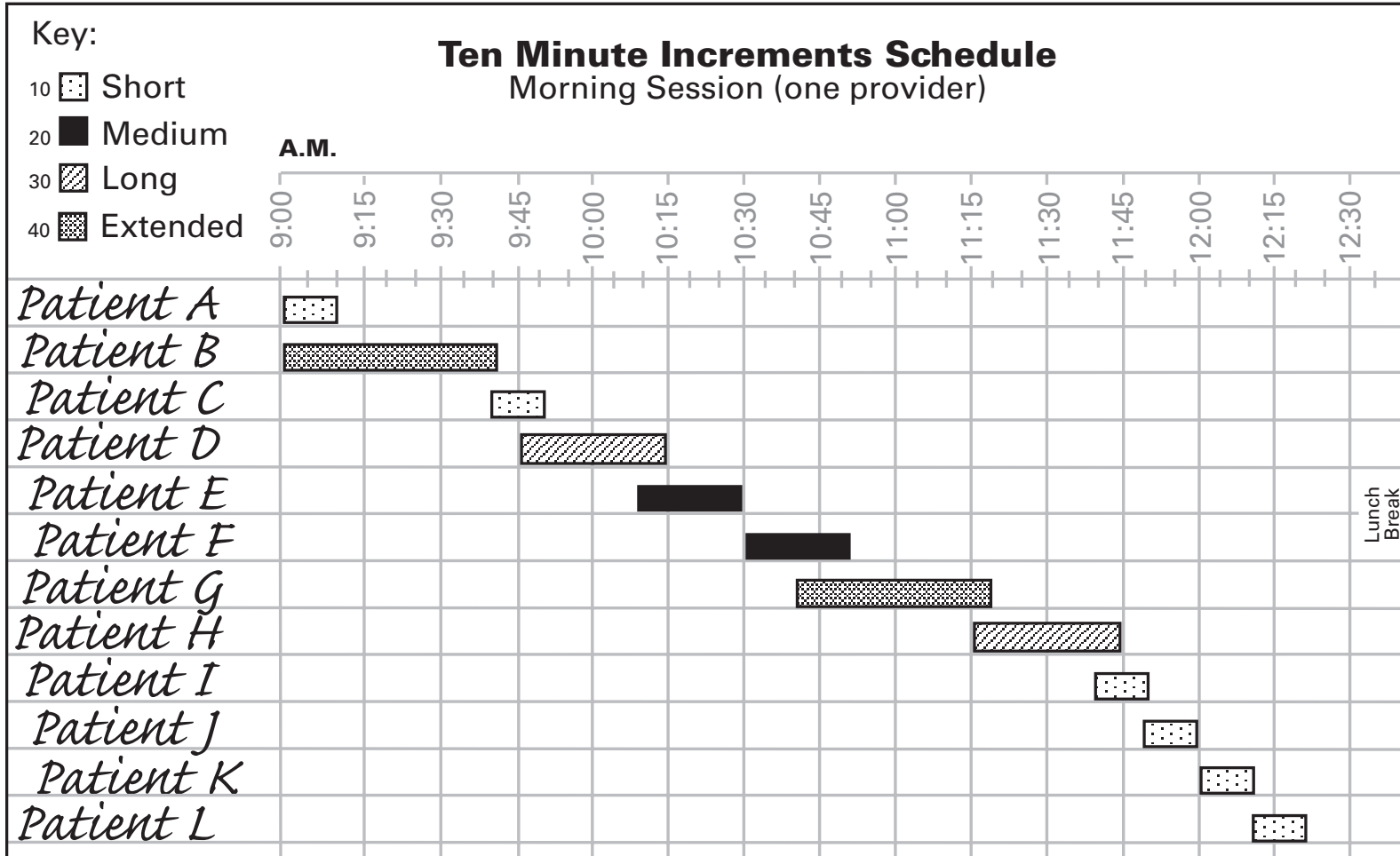
Morning Session (one provider)

Key:

- 15  Short
- 30  Medium
- 45  Long







Worksheet

Afternoon Session (one provider)

Key:

Short

Medium

Long

P.M.

2:00 2:15 2:30 2:45 3:00 3:15 3:30 3:45 4:00 4:15 4:30 4:45 5:00 5:15 5:30

Patient A

Patient B

Patient C

Patient D

Patient E

Patient F

Patient G

Patient H

Patient I

Patient J

Patient K

Patient L

Sample Problems List*

(using ten minute increments)

Abdominal Pain	(Triage) 30 minutes
Blood Pressure Follow-up	20 minutes
Chest Pain	(Triage) 20 minutes
Cholesterol/Counseling Follow-up (Direct to NP)	20 minutes
Constipation	20 minutes
Cyst	10 minutes
Depression	30 minutes
Diabetes Follow-up	20 minutes
Diarrhea	20 minutes
Dizzy	(Triage) 20 minutes
Ear Ache	10 minutes
Ear Irrigation	20 minutes
Edema	20 minutes
Fatigue	30 minutes
Fever	(Triage) 30 minutes
Flexible Sigmoidoscopy (Include DS or ET last 20 min for Tmg)	40 minutes
Hair Loss	20 minutes
Headache	20 minutes
Hemorrhoids (Initial)	20 minutes
(Follow-up)	10 minutes
Lump	20 minutes
Missed Period	(Triage) 30 minutes
Mole Evaluation	10 minutes
Mole Removal (Must be done by Dr. at end of day)	30 minutes
New Patient--Get Acquainted	20 minutes
New Patient--With Problem	30 minutes
Pain (General)	(Triage) 20 minutes
Palpitations	30 minutes
Pelvic/Pap	30 minutes
PHYSICALS:	
School Physical	20 minutes
Routine Physical (under 50) (Dr.)	30 minutes
(NP)	40 minutes
Routine Physical (over 50)	40 minutes
Occupational Physical w/forms (remind bring forms)	30 minutes
1. "Why are you scheduling this physical?,"	
If pt is scheduling due to a problem, schedule the problem	
2. DataBase Everyone.	
Review Physical Test Results	20 minutes
Post Hospital (ER) check (follow guidelines)	20 minutes
Prostatitis (male "Hurts when I urinate")	10 minutes
Rash	(Triage) 10 minutes
	30 minutes
Red Eyes/Runny Eyes	20 minutes
Shortness of Breath	(Triage) 20 minutes
Tendinitis Joint Pain	20 minutes
URI with no other problems	10 minutes
URI with no problems	20 minutes
UTI (advise w/need specimen)	10 minutes
Warts	20 minutes
Yeast Infection (Dr.)	20 minutes
(NP)	30 minutes

*For Patients over age 60 allow an additional 10 minutes per appointment