VIEWPOINT

First-year fears and fundamentals: An open letter to new radiation oncologists

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To all new graduates of a radiation oncology residency: The first year as an attending can be the most challenging year in a medical career. This is no truer than in radiation oncology. You have just graduated residency and now you must manage your first real job. For the first time in your medical career, what you do matters, and the buck stops with you. Additionally, you are likely in a new environment with new people and technology that is different from where you trained. You are also probably moving into a new home in a new neighborhood. In short, everything is new, and pressure is high. And did I mention the board exam is less than 10 months away? Feeling the stress?

Before we delve into a myriad of topics, some quick advice:

Take a breath. You made it. You have completed 9 to 13 years of training, have finally graduated, and you have a job—so congratulations, and relax for a minute.

Remind yourself that you have prepared for this. Being an attending is significantly more stressful than being a resident. You will agonize over small details in plans and second guess yourself constantly. Remind yourself, there is nothing coming at you that you cannot handle.

Trust your training. You will see a lot of variations in how to treat every disease site. You may or may not decide to incorporate other ideas into your treatment algorithms, but no matter what you do, be able to justify it to yourself. Never treat in a way you are uncomfortable with, even if others think you should.

You have a lot to learn. You are at the beginning of your career. Everyone you meet in the department has more experience than you. Be open to learning from them.

Be ready to work hard. At least initially while getting familiar with your new environment, you may be working more hours than you did during residency. It will take time to feel comfortable in your new position and work out the kinks in the workflow. Things will get harder before they get easier.

I am not a mental health professional or life coach. I am just a colleague who has been through this journey and hopes to impart some advice based on my and other's experience that I wish someone had given me. Below are topics and challenges experienced by first-year attendings—a list by no means exhaustive.

Attitude

As with most things, it is important to have a good attitude when entering your first job. Be optimistic that this could be a long-term position and take roadblocks in stride. Try not to let minor problems derail your attitude. Most roadblocks are really just opportunities for improvement. As the newest person to the practice, you may be given a schedule that is not ideal, asked to cover for others more than you expected, be told you need to take call on holidays, or find that your time off is limited because of others' vacation. This may feel like abuse or "hazing," and you may feel obligated to comply with all requests out of concern for job security. You should realize that most of these fears are unwarranted and are a relic of feelings and expectations acquired during medical

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school, internship and residency. While there is some hierarchy in any practice, most physicians understand that new attendings are partners in the practice and do not want to create a hostile work environment. Some of us have a people pleasing personality and say yes to everything. Others may feel the need to say no to protect themselves. Neither way is ideal. My suggestion is to become the "yes, and" person. Be willing to say yes and, while saying yes, be sure to voice requests and ask about compensation for extra effort. Be flexible and accommodating but not foolish. If you take call one holiday, make sure you get the next two off. If you cover for someone, make sure to say that you will look for a time they can cover for you. In this way you can help out but not feel taken advantage of.

Finally, and probably most importantly, you should voice concerns of unfair treatment or division of responsibilities. If you feel you cannot express yourself, or are not being heard, you may need to look for another job.

Loneliness

The first year of practice is very lonely. Until now you have been constantly surrounded by friends and colleagues. In medical school, internship and residency, there were always others going through the same thing who you could talk to and empathize with. In short, you had a support group, a community. In addition, you had supervisors you could trust because there was always a dean, program director or mentor who was invested in you and who you generally felt had your best interests in mind. Additionally, at your training center, you were slowly oriented to the clinic and introduced by others to all the necessary people and items to be successful at your job. By the end of your training you knew all the radiation staff, all the referring doctors by name, and generally how to navigate your hospital. All this changes with your first job.

You are likely to be the only new person hired to your institution and need to figure things out yourself. You may not be introduced to anyone. Except for teaching you how to use the electronic medical record (EMR), no one in your office is likely to train you on how to do anything. You will have a boss, but no one is supervising you directly and no one is invested in your career anymore. This freedom is liberating, but it is also terrifying and lonely.

Additionally, you will spend a lot more time by yourself at work than you ever have. Until now, you have been constantly surrounded by other medical students, residents and attendings. Even when you did work by yourself, when you finished you had to interact and speak to another resident, attending or someone about your work. As an attending, you may spend hours writing notes, contouring volumes and responding to emails, and you may not see another individual all day.

My advice is this: First, do not be discouraged. Everyone feels lonely in the beginning and it will pass as you acclimate to your new work environment. Second, make some friends because you are not and cannot function as an island. You may want to sponsor a breakfast at your clinic (donuts and coffee are cheap) as you introduce yourself to the staff. You should also make a conscious effort to learn everyone's name. This may seem obvious, but for many people it is not. Also, when you first start and when the clinic is not busy, you may want to schedule time with your administrators, dosimetrists and physicists to talk about their jobs and how you can smoothly transition into the clinic. I also recommend finding a work friend such as another physician in your group—someone you can trust—to become your ally. Finding a work friend takes time and effort but will make your life at work much more enjoyable. Finally, attempt to participate in your practice's social events as this will build social capital and help integrate you into the group more quickly while staving off loneliness.

If you are experiencing severe depression or adjustment disorder that does not improve after several months, see a medical professional.

Support Staff

Communication with your support staff, and by this I mean your administrators and schedulers, is essential. Discuss how you would like your clinic run. Discuss how many new patients, and how many follow-ups you want to see. Discuss what day will you see the on-treatment visits and make sure there are fewer slots for consults and follow-ups. In the beginning, I would recommend no more than 2 new patients (1-hour slots) per 4-hour clinic and fill the rest with follow-ups (30-minute slots). Your clinic will not be busy in the beginning (unless you inherit a service) and you should use your time to study for the board exam.

Nursing

Remember that you are the new person and you are being inserted into a clinic that already functions in a particular way with its own unique culture. Nurses may have different roles in different clinics. Discuss with the nurses in your clinic how they function and what to expect, how long they take with each patient, and how long for a patient to be roomed. Some nurses take vitals only while others do a complete intake of the history. My suggestion is, at least in the beginning, not to make big changes in the nursing protocols until you have more experience in the clinic. Saying things like, "During my training, nurses were involved in consenting patients and scheduling treatments," in a clinic where that is not the norm will prompt an eye roll and a negative interaction.

Simulation

Discuss with the simulation therapist the immobilization devices that are available. Often the simulation capabil-

ities you trained with are not available. For example, many computed tomography (CT) simulators cannot give contrast. In that case, you should register a diagnostic CT. Some simulators do not have breath-hold, in which case you may want to consider prone for left-sided breast treatments and larger clinical target volumes (CTVs) for free-breathing lung treatments. If they do not have what you are familiar with, discuss the alternatives. Do not get bogged down with devices, as they are only tools. Do not think that if you do not have a vacuum-locked bag you cannot do spine stereotactic body radiation therapy (SBRT). The purpose of the bag is to create reproducibility. If you can get this with a compliant patient on a simple mat and can verify it with a cone-beam CT, SBRT is safe. Think about how you want to immobilize the patient and then ask the therapists what they suggest. It is important to be flexible and thoughtful.

You will need to place a simulation order for each patient describing the setup you want. For the first several patients, I suggest you ask the simulation therapist to call you after the patient is immobilized but before the CT to confirm you like the setup. You may realize that you were not clear in the instructions or that the therapist misinterpreted your order. This is the time to clarify what you want and how they should proceed in the future. Once you have confidence with the immobilizations and that the therapist is following the simulation orders as you request them, then you do not need to see the setup before the CT. As with being called to the linac, as described later, when you are called to the simulator, you should go ASAP, even if it means interrupting another encounter.

Volume Contouring

At this point in your career, you should be fairly comfortable with contouring as this is where we spend the most time training during residency. For a comprehensive site-specific review, see Chhabra et al 2018.[1] You must give yourself time to do the contours as this is the most essential part of treatment planning. In fact, as a new attending, you may need extra time to contour or to look at atlases (I continue to look at atlases often). Additionally, some disease sites by the very nature of their complexity, like head and neck, require prolonged contouring regardless of skill. Even after a few years of treating head and neck cancer, it still takes me an hour to complete volumes. Review your clinic schedule and make sure you have enough time for this task. My suggestion is to have at least 2 half days during the week, one in the beginning of the week and one at the end, when you know you can get volumes done. This is often not possible in busy clinical practices where you see patients every day. If that is the case, you may need to contour after hours. You should try to get the volumes done within 3 days of the simulation to avoid treatment delays.

It is appropriate to ask a dosimetrist for help, especially for contouring normal structures. In many institutions, dosimetrists contour most or even all the normal structures. If they do, be sure to review them prior to treatment planning. Small changes in an organ at risk (OAR) can have large consequences on the dose-volume histogram (DVH).

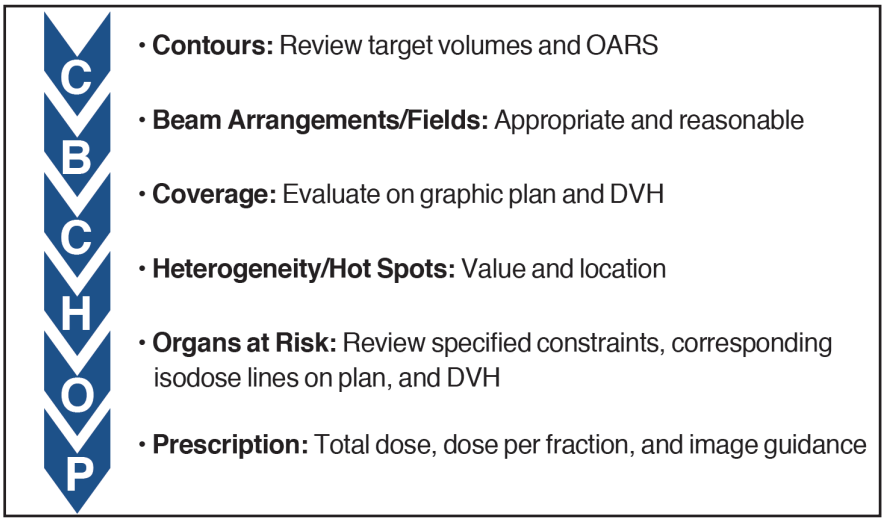

***FIGURE 1**. Flowchart diagram summarizing the CB-CHOP acronym and components of plan quality.[8] Key: OAR = organs at risk, DVH = dose-volume histogram. Reprinted with permission from the authors.*

Regarding planning target volumes (PTVs), a review of relevant literature[2-7] and a discussion with your physicists about the immobilization devices and machine capabilities will help you determine a safe PTV for each disease site you treat. You should try to treat with standard PTVs of 0.5 cm for most sites and a 0.3 cm PTV when using an Aquaplast mask and cone-beam CT (CBCT). Small variations are acceptable.

Dosimetry

This group is often the most experienced and will be your greatest teachers. There is nothing better than an experienced dosimetrist who knows exactly how to plan. Alternatively, there is nothing more frustrating than a bad dosimetrist who struggles to make decent plans. It is important to tread carefully in this arena because often dosimetrists are used to doing things a certain way and do not like variations. That being said, there is no such thing as a perfect plan. We are spoiled in residency with excellent dosimetrists who have been working with the same physicians for years who produce excellent plans on the first try. This is not often the case in practice.

Trust your training, and know it is often necessary to teach the dosimetrists how you like plans done, what priorities you place on different OARs, and what techniques you suggest they employ. Also, you must consider the deviations you are willing to accept and how many plan revisions are worth the effort. After finishing volumes, it is often beneficial to have a brief conversation with the dosimetrist about your priorities and how you want the patient planned. Even if these are in the prescription or treatment planning note, a direct conversation is often worthwhile. There is no such thing as over-communicating. However, be kind and tread carefully.

For plan review, a recent publication in *Applied Radiation Oncology*[8] suggests using the mnemonic CB-CHOP (**Figure 1**) to remember the components: contours, beam arrangements/fields, coverage, heterogeneity/hot spots, organs at risk, and prescription. Please refer to that publication for details. Even as you become more experienced, it is a good habit to review it in every plan to avoid errors.

If after several plans it appears the dosimetrist is just not getting it, kindly suggest that another dosimetrist, preferably one with more experience, look at it. Also, feel free to contact the dosimetrists you trust at your training program for quick suggestions that may save a lot of time.

Finally, you will occasionally remember something after the plan is made that will require a re-plan. DO IT! Don't worry about the wasted time or the eye rolls. Apologize, and try not to make it a habit.

Image Review

A task rarely performed by residents but required by attendings is daily image review. This tedious task needs to be completed after every treatment and before the patient's next treatment. You will need to carve out time at the day's beginning or end to do this. As with treatment plans, there is no such thing as a perfectly reproduced setup. You will need to decide whether each image is acceptable or unacceptable. This can be difficult but my general rule is this: If the deviation from the digitally reconstructed radiograph (DRR) to the daily image is less than or equal to the PTV, I accept it. After all, this is why we put on PTVs, ie, to account for the daily set-up error. Also, it can be frustrating for the therapists to adjust for 1 to 2 mm.

You will be asked to come to the treatment machines to review the setup for a treatment start. This is often called a simple simulation or sim 2. Please be prompt and go ASAP. If you need to interrupt a consult, so be it. Keeping treatment machines on time is an essential part of the clinic.

Sometimes during this simple simulation you will see difficult-to-assess images, such as MV imaging of the spine for a palliative treatment. Perhaps the therapists think they are aligned but you cannot tell. Trust that if you cannot see it well, neither can the therapists. Ask them to show what they are matching to. If it seems reasonable, then proceed. If not, check the patient setup in the room, and perhaps ask them to take another angle (like an oblique) or a KV image, or even a CBCT. It is much better to take longer and ensure the patient is in the correct setup than to rush through the approval process.

Therapists

Talk to the therapists about how you like setups, what you feel is reasonable and when you should be called to the machine. When called to a treatment machine, a physician should interrupt any other activity and go to the machine as soon as possible. This includes other patient encounters including consults and follow-ups. Politely apologize for the momentary interruption and go to the machine. A patient may not be tolerating the treatment or there may be a clinical issue to attend to. While the therapists are good at their jobs, remember they have no clinical training whatsoever and so cannot assess patients. Additionally, delays on the treatment machine should be avoided as much as possible. Therapists also look favorably upon doctors who are prompt and do not cause delays. You want to be that doctor.

Chart Rounds

The purpose of this conference is to do a clinical peer review at the beginning of all treatments to ensure safety. This conference often takes quite a while and it is important to vet the chart efficiently and quickly. This is also where your treatment approaches will be critically appraised by your more experienced peers and your treatments will be criticized or corrected. Think of yourself as a sixth-year resident in this conference. You have a lot to learn, and this learning is hands on. You *will* make errors and you *will* be corrected. That is a good thing and it will make you a better doctor. Most errors will be minor or simply a variation of a standard practice and will not require any change in the plan. Some may be serious enough to require a change in the treatment plan. If so, change it. I learned more in the chart rounds my first year as an attending than I ever did as a resident. As a resident I was focused on the presentation and whether I would be "pimped" on the disease. As an attending you quickly get past the presentation and can focus on the volumes and think more generally about the treatment approach. Best not to have an ego for this part. If you feel attacked, it is because the other doctors do not know how to communicate effectively. Hopefully you will be with experienced physicians who will help you become a better doctor.

You will also find that many colleagues are treating patients in a nonstandard way. You may feel that some practices are unethical (eg, long palliative courses or use of intensity-modulated radiation therapy [IMRT] when

not indicated to make extra money), or potentially even harmful (undertreatment because of excessive or unreasonable concern for OAR limits, or overly aggressive treatment that compromises OAR limits). It is challenging to give feedback to more senior attendings. However, trust your training and if you think an error has occurred, express your concern. Be diplomatic. Instead of attacking the other physician, it is perfectly appropriate to say, "I am not familiar with how you are treating this patient, what literature is it based on?" If the colleague can justify the treatment, then great. You can also say, "Based on how I trained, I might suggest…" and then give one or two suggestions in a nonthreatening way. If I find several things to be unusual in a treatment plan, I might only pick one or two to mention at the conference, specifically those that make the plan unsafe. Remember, there are many ways to treat and just because it is not your way, does not make it wrong. Learn to appreciate others' approaches.

It is often a good idea to sit down with your new boss and other attendings in your group to discuss general approaches to cancer treatment. A good institution will allow you to treat how you prefer as long as you can justify it, but some places have specific preferences. Generally speaking, you should give considerable weight to the way cancer has been treated at your new institution even if you are not familiar with it. First, you may learn something new. Second, it is very difficult to change a practice as the new person. If you find yourself constantly at odds with your colleagues about the way to treat patients, you may not have found the right job.

Finally, and importantly, own up to mistakes. Do not defend or hide them. If you make a serious error that harms or potentially harms a patient, be upfront and contact risk management. You are a professional in charge of peoples' lives and must take responsibility for your actions. This is also the best way to avoid losing your license.

You have a lot to learn, and this learning is hands on. You will make errors and you will be corrected. That is a good thing and it will make you a better doctor.

Clinical Mentorship

Especially in the first year, it is common to have uncertainties even about the simplest cases. There is no shame in asking for help. As discussed above, you may feel alone and do not want to ask your new colleagues for help for fear of appearing incompetent. I think this is a mistake. Humility and honesty are not weaknesses, but strengths. You should try and find a mentor at your new institution from whom you can solicit advice and trust.

If you absolutely feel there is no one at your institution to ask, remember you still have resources from your training institution. Do not hesitate to contact mentors from residency about difficult cases or to use them as a sounding board for thoughts. I found that as I gained experience and confidence I reached out less, but it was comforting to know that expert opinions were in easy reach.

Documentation

You are required to document everything you do in the clinic. My suggestion is to make templates (I modified mine from residency). Also, you should ask colleagues how they document. Frequently, radiation-specific notes are created and stored in Aria (Varian, Palo Alto, California) or other patient-tracking programs. Work with your IT team on streamlining the documentation process.

Billing and Productivity

This is a topic never mentioned in my residency. You need to stay productive to prove you are worth the investment to the practice. Everything you do in the clinic is given a relative value unit (RVU). Therefore, you can look at your RVUs and determine your productivity. Make sure to clarify how your practice accounts for professional codes (patient encounters) and technical codes (treatment planning and delivery). Discuss with your new boss your productivity expectations and what happens if you either exceed or fail to meet those goals. Most practices realize that the year after graduation consists of practice building and studying for the board exam and do not have high productivity expectations.

I would suggest reviewing the American Society for Radiation Oncology (ASTRO) coding guidelines found at https://www.astro.org/Daily-Practice/Coding/Coding-Guidance. Even a cursory understanding of billing and coding will help maximize your productivity. If you think coding is dense and complicated, remind yourself that you passed neuroanatomy in medical school and it can't be more complicated than that.

Talk to your billing department and ask what documentation is required for a level 3, 4, and 5 consult and follow-up. Ask what documentation is allowed for different procedures and where the documentation needs to go. Two physicians with the same clinical load may have different RVUs depending on how each documents and bills.

In general, consults are billed based on complexity and amount of time required for the consultation. Most radiation oncology consults are going to be billed as level 5 because cancer patients have complex disease processes and complex coordination of care. Simple consults like keloids, heterotopic ossification, eye plaques and other sites where there is relatively little complexity can be billed as level 3 or 4.

Follow-ups are also billed based on complexity and I use a similar algorithm as consults. Level 3 follow-ups are simple follow-ups such as breast cancer that require little coordination. Level 4 follow-ups are those with new imaging or pathology to review or moderate coordination of care. Finally, level 5 follow-ups involve patients with disease progression who require more treatment.

For those who cover hospitals, inpatient consults only have 3 levels, 1, 2, and 3 and I use the same algorithm as above. Generally speaking, most inpatient consults are complex and I almost always bill a level 3.

Referring Physicians

In my practice, I interact with referring oncologists and surgeons more than my fellow rad onc colleagues. Ask the other members of your practice who your referring providers are and reach out to them. Tumor boards, if you have them, are a great place to introduce yourself. You can always find office numbers on the internet and you can usually manage to locate an email address or a cell phone. Give out your cell number to all referring providers and let them know you are available any time to discuss or see a patient. You want your referring physicians to know you are available, even on short notice, and are willing to overbook your clinic to accommodate requests. All things equal, referrers are more likely to send patients to someone who will see them quickly. This is probably the most important aspect of building a practice. I also recommend a follow-up call or email to the referring provider after a consultation or follow-up, even if you are sending them your clinic note. It helps maintain the relationship.

Board Studying

While learning a new system and building a practice, you'll feel a gnawing thought in the back of your mind: preparing for the boards! Thankfully you do not need to worry about the boards until the second half of the year so I would not even pick up a book until at least January. Take the first 6 months and just adjust to the clinic and the new work environment. Starting in January I would find a study group (your co-residents or other new attendings) and start systematically covering all the disease sites on a weekly or biweekly schedule until April, and then spend the next few weeks practicing the templates and algorithms and memorizing the details of each site. Board study is a much longer topic that will not be addressed here. Suffice it to say, it can wait until after the new year.

Moving On

Many of us don't know what kind of job we really want (although we think we do) and we are thrilled to have any job upon graduation. There may be moments of disillusionment when you think this is not what you expected and you are unhappy. Feelings of depression and "burnout" are common in our field.[9,10] When you graduate residency, there is no magic that takes the stress out of life; there are just new stresses. Unfortunately, there is no pot of gold at the end of the rainbow; there is no perfect job.

Because the beginning is so tough, I would suggest giving your job at least 2 years before deciding to leave. You need to time to adjust and you do not want to change jobs while preparing for the board exam. However, if you feel you have a hostile work environment or overall disappointment and efforts to improve the situation have failed, you should consider finding a new job. I would simply suggest examining all the angles before quitting, as the proverbial grass is not always greener.

First Patient Anecdote

My very first patient as an attending must have sensed my anxiety (and perhaps I look young) because she asked the one question every new attending dreads: "How long have you been doing this?" Without hesitating, I said, "Five years," because I included internship and residency. After all, I am not new to medicine or radiation. I am well trained, and she should know she is in good hands.

I am sure I have missed many topics, but hopefully these experiences and tips will help you prepare for a successful first year and navigate the exciting, sometimes daunting, but ultimately rewarding road ahead.

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