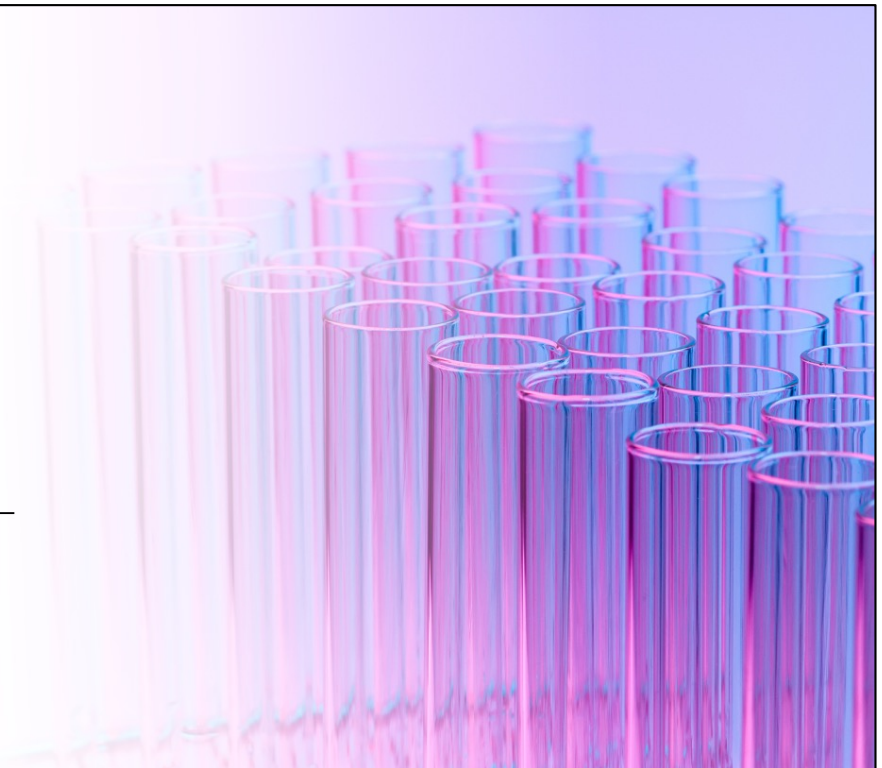# Did You Read The SOP?

Procedure Writing for the Laboratory

Sarah Greene

Hello everybody!

I'd like to thank the Write the Docs community for the opportunity to share my work with you all today.

My name is Sarah Greene and I'm a lab tech in a diagnostic laboratory but my favorite part of my job, what gets me excited, just like all of you, is documentation. This talk is about procedure writing in the laboratory and I hope you'll find it as interesting as I do!

My goal today is to share the laboratory experience with you all in hopes that you learn about documentation in an often forgotten about field and for those of you who work with non-writers who are begrudgingly a part of the docs team, I hope you can take away some inspiration for encouraging everybody to care about documentation – no matter the job at hand!

Well written procedures ensure
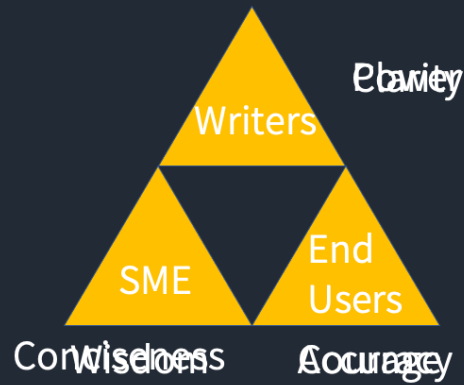life-saving clinical decisions can be made.

Image: pxfuel

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Labs are often hidden away in the basement or in windowless rooms, even forgotten about by those who rely on the information we provide. In every lab I've worked in, there is always a misconception from those on the outside about what actually goes on in the lab. There's often this vague idea that you can push a button and get a number or a positive/negative result, or a yes or no. If only it was that easy! We wouldn't be pulling our hair out and running around like chickens! Instead, quality control must be ensured, testing must be methodical, and there has to be guidelines in place to ensure accurate results.

One way we do that is with well-written procedures.

So you might be wondering: what does the lab tech have to do with software or the tech field in general? We actually have more in common than you think!

Overall, our goals are the same! Laboratorians, just like documentarians, strive for the same output. Instead of the triforce of power, wisdom, and courage(which I guess you could make an argument for), OUR triforce is Clarity, Conciseness, and Accuracy. In the lab: your report CANNOT be hard to read. Conciseness and clarity are of the utmost importance when your providers (or end users) are scanning for answers. And of course, we want to put out accurate results our clients can rely on.

When it comes to docs, laboratorians can relate to our programmer friends! We are both the writers of our docs, the subject matter experts, AND the end users. We are responsible for writing our own procedures and that's great because we know our job best.

By show of hands, how many of you have colleagues who might view docs and their creation and maintenance as a burden?

Yeah. Same here.

In a survey of the lab, the vast majority of folks indicated that writing, revising, or reviewing procedures comprises less than 10% of their job duties.

So it's understandably frustrating that something SO important to what we do, that deserves attention, gets so little of it. There are no tech writers. There's lab techs and supervisors. Finding the time to write procedures was the number one frustration in the survey – by far the biggest hurdle.

We want to inspire our non-writers to champion their stake in documentation.

Image: Anna Shvets, Pexels

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I can't solve the time crunch unfortunately. And the developers, product managers, and other software folks among us likely have a similar experience. Many would rather have their focus elsewhere anyway, right?

So what can we do?

As documentarians, we want to inspire our colleagues to care about docs as much as we do – or at least not view the duty in a negative light!

Hopefully my experience working with my fellow lab techs to create SOPs we are proud of will help you take away some tips for turning your non-writers into advocates for good docs. No matter where you work!
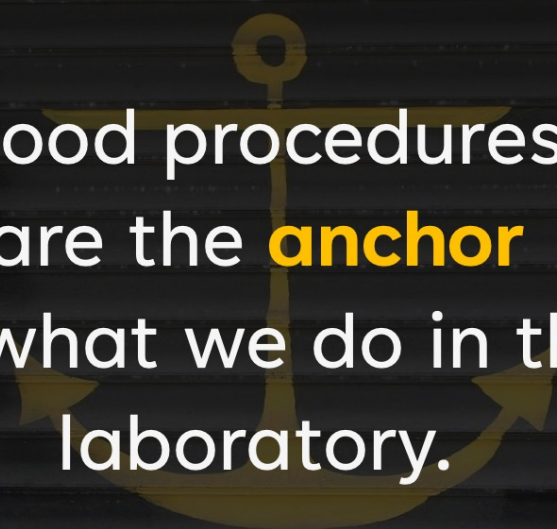
I'm going to give you all a brief overview of working in the lab, why procedure writing is so critical to our jobs and tell you a story about the death of an analyzer which prompted the urgent need for completely new procedures.

We'll finish with how to inspire your colleagues to take pride in their roles in the documentation process and help them write good procedures or any docs they might be responsible for.

Good procedures
are the **anchor**
of what we do in the
laboratory.

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Image: "anchor" (CC BY-SA 2.0) by stefanie says

Standard Operating Procedures are the lab's best friend. Often written as step-by-step directions, procedures ensure consistency and reduce variability between technicians.

I cannot stress how important it is to have good SOPs. They are the backbone to a smooth operating lab.

Soooo....

What **do** you do in the lab?

I think when you ask people what happens in a lab, the general vague idea of a research lab pops up where you might be doing experiments with brightly colored liquids in flasks and you see little poofs of smoke appear. Sorry to disappoint.

In a diagnostic or clinical laboratory, we're examining and testing specimens collected from patients. When you go to the doctor and have blood collected, it gets sent to a lab for analysis. Doctors do not have time to look at your urine or blood. They come up with their differential diagnosis and use the results from the lab to decide the next steps or confirm a treatment plan.

This is not my blood, by the way, it just happened to be a cat named Sarah.

The lab is broken up into different sections, each with their own specialty. I work with blood, urine, and body fluids in general.

Each lab section has it's own workflow, requirements, and procedures.

Aside from the main responsibilities of being a lab tech, the BEST part (and of course I'm biased) is all of the documentation that happens in the lab.

We write SOPs, quick references, any general type of job aid. As part of a quality assurance program, we also write corrective actions, non-conformances, and planned deviations in order to track and trend anything that can be improved in our processes.

Personally, I've been working on training guides for new techs and undergraduate students who are completely new to working in a lab. There is a ton of opportunities for docs in the lab.

Procedures keep us afloat

Reference & Training

Image: Matthew Barra, Pexels

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Good procedures are most important when it comes to training. Your first day or two in the lab consists of sitting down and reading relevant SOPs. Our section breaks it up based on what bench you'll be training on first.

The first read through is probably the least helpful. Until you get in front of the analyzer you'll be working with and walk through a process with a trained staff member, is when you really understand the SOP, it's just a formality to read it first.

But the reason it's so important to follow the SOPs is consistency. If we all do something the same way, we eliminate some potential for analytical errors.

Consistency

Image: Rogerio Rondon, Pexels

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We also want to yield comparable results. Visually if a line falls between two numbers, do you round up or down? Same thing when judging color.

Consistency is key.

We test ourselves through proficiency testing, comparing our results not only to each other but to other labs as well.

It's also important to do stuff the same way when it comes to the more subjective evaluations.
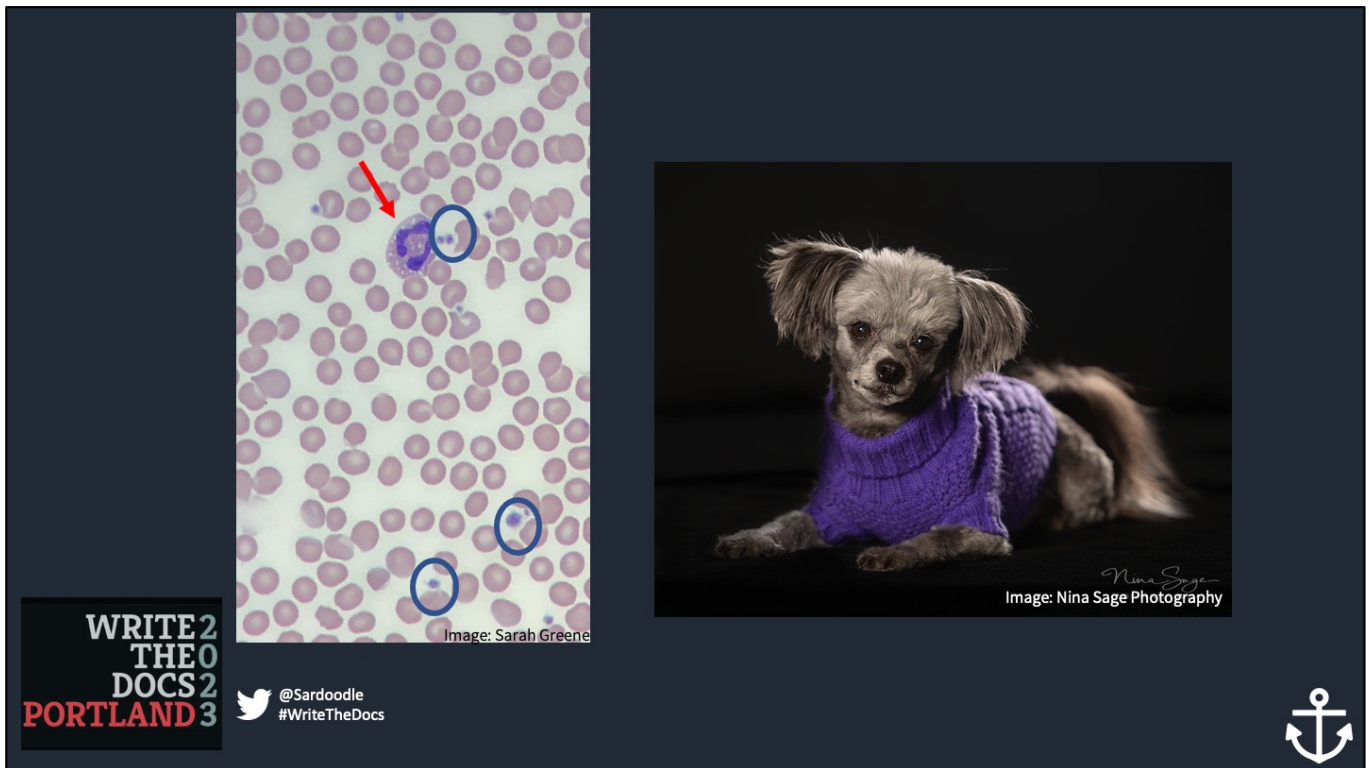
Science is an art. You have to make some subjective calls when it comes to evaluating morphology on blood smears. While your level of comfort with this comes with time and experience, we have to be able to clearly document how we are evaluating these things with discrete criteria.

In this example: This is what you typically see when you look at stained blood smear. We look at the blood for every CBC (or complete blood count) we receive. Here we have one white blood cell (the large cell with dark purple), platelets (the tiny purple dots), and lots of red blood cells in this field. We count 100 white cells, classify each one, and evaluate the morphology of both white cells and red cells. Each species looks different and the blood we look at very often tells the story of what is going on with each patient. You can gather A LOT of useful information from what the blood cells look like. Sometimes there are cancer diagnoses made based on the appearance of certain white blood cells and the quantity and morphology of the various cells can indicate inflammation, anemia, and various diseases. It's really fascinating and by far, the most interesting duty as a lab tech, in my opinion.
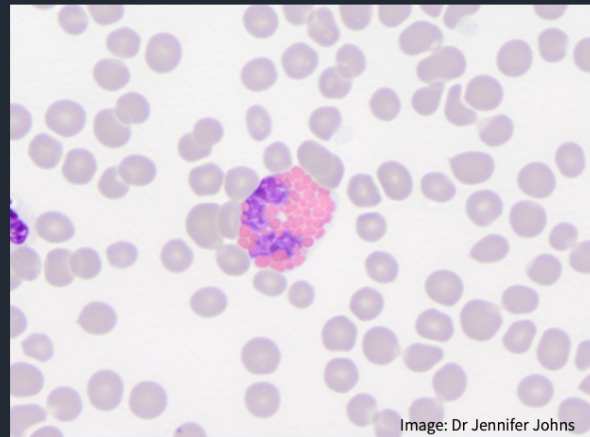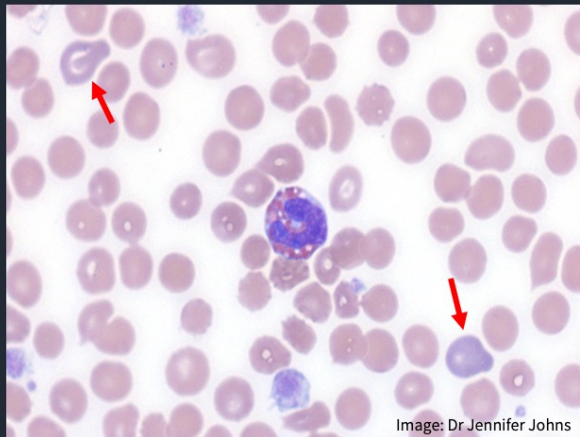
This example here was a healthy dog. Being in the lab, we don't get to see the patients but in this case, this beautiful sample was provided by my forever friend, the Queen herself, Adella May.

Few: < 10% of cells   Several: 10 – 25% of cells   Numerous: 25 – 50% of cells   Many: > 50% of cells

Image: Dr Jennifer Johns

So here we have examples of the same kind of white blood cell from two different species.

The eosinophil, which has pink granules in the cytoplasm of the cell, on the left is from a dog. The sample on the right is from a horse. Pretty neat!

On top you can see the criteria for how we are judging the morphology. I can't draw conclusions from one field but we're looking for changes in the red blood cells. The dog example you can see some red blood cells that stain purple – those are more immature red blood cells and we call that polychromasia. That's information the clinicians want to know. We use these guidelines to evaluate the blood smear and hopefully maintain consistency. If I decide to call several polychromasia, if another technician or a pathologist looks at the same slide, we aim to report the same evaluation.

While training somebody to evaluate blood smears, they were asked why they had decided to call something the way they did. Their response? "That was the vibe of the slide."

We can't go off vibes. It's not in the SOP.
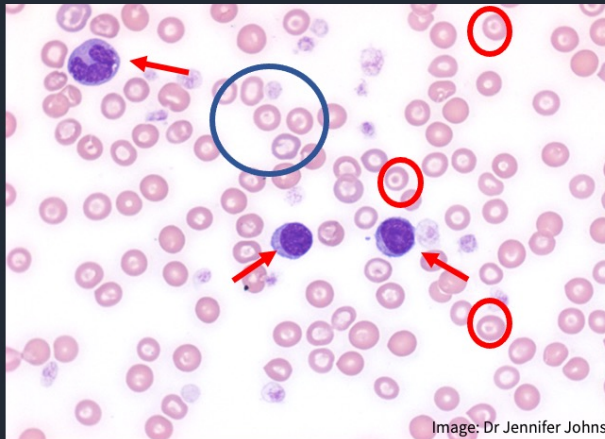
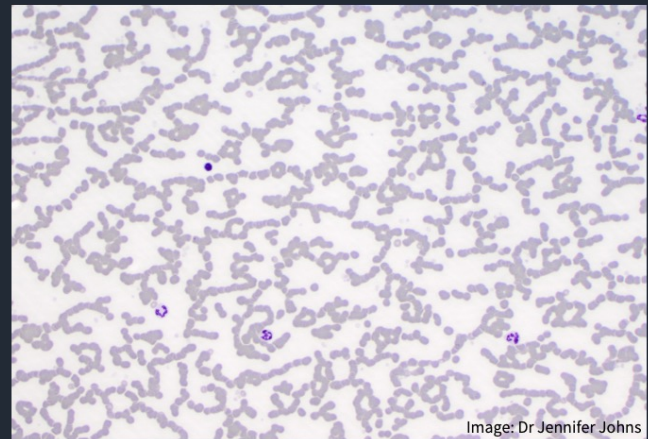Few: < 10% of cells   Several: 10 – 30% of cells   Numerous: 30 – 50% of cells   Many: > 50% of cells

Image: Dr Jennifer Johns

Image: Dr Jennifer Johns

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Here we have another dog sample where we see two lymphocytes and a monocyte in the top left corner. These white blood cells look unremarkable.

We do have some red blood cell changes we'd want to note if we saw the same thing in cells across the whole slide. Some of the red cells look like they have bullseyes right? Those are target cells, which you might see with liver disease. Some of the red cells appear to have less red in them, indicating there might be lower amounts of hemoglobin. That's information to report if we see this as a trend on the slide.

On the right, this is obviously really zoomed out compared to the other examples. This is from a horse and the red cells appear stacked in tight bundles, or like stacks of coins, right? That's called rouleaux formation and it's not uncommon in horses. But this is a lot. According to our guidelines, everybody should classify this as "Many" rouleaux formation – greater than 50% of cells appear to be in rouleaux.
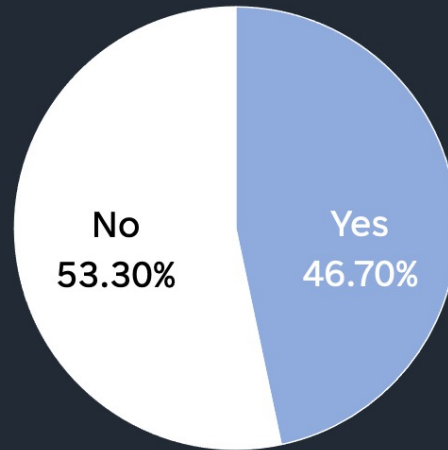
So, as the title of this talk asks: Did you read the SOP?

Eh, it's 50/50.

Which is not truly fair!

I did ask 'Have you read ALL of your department's SOPs?'

You're only going to read procedures you are responsible for executing.

But the question might be did you memorize every SOP and can you recite specifics if you're quizzed?

No, of course not. Nobody should waste the brain space. Procedures are written so you DO NOT have to memorize every detail. They're instructions for how to perform certain tasks or tests and also references for technical information you may be asked to find.

In calm waters

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Image: Matthew Barra, Pexels

When it comes to writing procedures, our goal is to write the step-by-step procedure so clearly that someone who has never done it can follow those steps without getting lost.

Needs to make sense to trainee.

Image: Matthew Barra, Pexels

S.S. SOP

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Now, the caveat being, we would not ask an untrained staff member to do that but there are plenty of times where that goal has paid off.

Nobody is expected to memorize every single procedure and every detail. It's not reasonable, especially for tests that are very infrequently ordered.

I personally have the procedure binder out and open when I do maintenance because it's handy to refer to procedures I do maybe every other month.

We also have pathologists who may be asked to run certain tests during after-hours or low-staff emergencies. Their jobs are not to run tests but they're certainly more qualified to do it than I am!

These SOPs allow them to follow complex procedures that they rarely need to do and don't need to memorize each step. And we can still maintain consistency!

When
the seas
are rough

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Image: George Desipris, Pexels

In high stress situations, clear steps forward are essential.
Murphy's Law, right? Good days can turn to bad days really quickly.
I need to know the best way forward.
Troubleshooting flowcharts, either lab-created or from the manufacturer, are helpful.

I would say the majority of our knowledge base is built from hard-earned experience and trial and error. It's critical that whenever something happens, it gets written down. Because it's bound to happen again and it expedites the troubleshooting process when you have something to refer to.
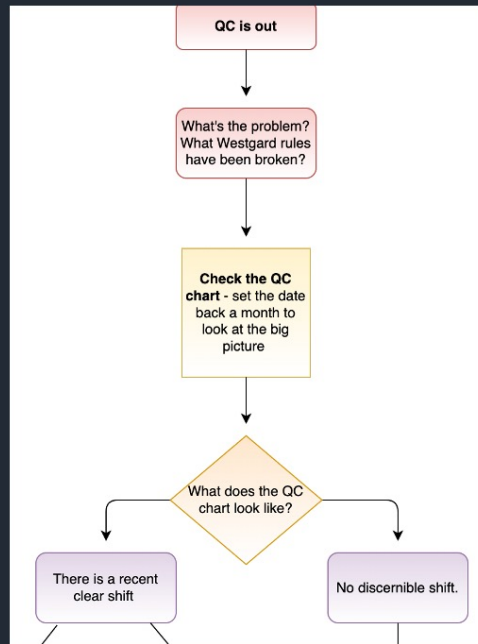
Troubleshooting is the most stressful part of working in the laboratory. We keep troubleshooting logs where we document what went wrong and what the solution was. It's tremendously helpful to reference.

As I mentioned, flowcharts are helpful too. Easy for the eyes to follow and sometimes get us an answer. But a lot of the times, they end in 'Contact Technical Services'. Oh well, we tried!

Clinicians calling and waiting on results to make decisions

Image: Sarah Greene

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Good procedures can save precious time when it comes to stressful situations. Analyzers break down, always at the worst times. When you're troubleshooting a problem, the phone may be ringing with clinicians wanting to know when their results will be ready, you quickly get backed up in other areas when your attention is focused on the malfunctioning instrument, and a quiet day can turn into chaos in minutes.

The longer we have worked with these analyzers, the better we have gotten at documenting on our troubleshooting log. If you haven't encountered this problem before, it's likely someone else has. If it's written down, it saves time and gets us up and running quicker than calling technical support and waiting for an engineer to call back.

Well-written procedures are treasure chests of information and are almost always the answer to keeping the lab running smoothly.

The **death of an analyzer** prompts the need for completely new procedures.

Okay, story time.

Lab instrumentation doesn't last forever and although we do our best to keep them running, time catches up with us all, sentient or not.

It's a big deal when a new analyzer is expected. It doesn't happen very often and it takes a lot of work to get it up and running patient samples. Someone in the lab is appointed in charge of assisting the engineers and specialists in the installation and validation. This includes writing the new procedures.

And this time….it wasn't me.

The old Immulite 1000 is put out to pasture

The Immulite 1000, an immunoassay (uh-muu-no assay) analyzer, chugged along FOR YEARS until it couldn't and it became apparent we had no choice than to upgrade.

The Immulite 1000 was outdated and no longer sold in the US. It was time to find a replacement.

Yes, I hold memorial services for our fallen soldiers.

A moment of silence for the Immulite 1000.

Okay, that's enough.
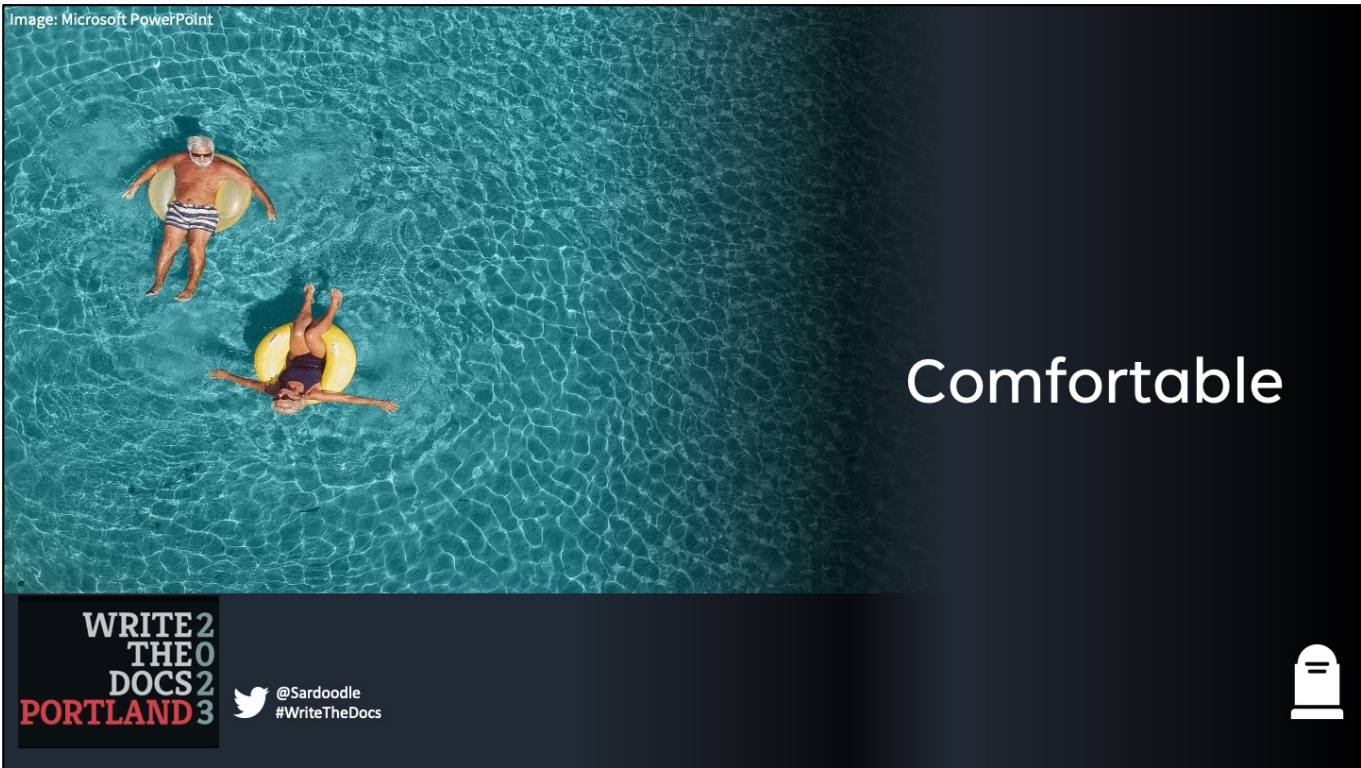
Comfortable

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We were experienced working with the 1000 – the workflow and all of its quirks. Maintenance was straight forward and we had hounded the sole engineer left to service it with tons of questions. So it was going to be quite a transition to a new system.

The *new* Immulite 2000

Image: Sarah Greene

So we met his stronger younger brother, the Immulite 2000.

Honestly, the 2000 is more high-thoroughput that our lab needs. It's built to run hundreds of samples a day. We're running like ten a day.

So our workflow for this specific instrument was going to change drastically due to how it is meant to be used.

A more complicated system means techs have to learn a new workflow.

Image: Microsoft PowerPoint

Multiple ways to do one thing require decisions to be made.

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Because of our unique situation, there were potentially multiple ways to do start-up, to run samples, to do maintenance, and a myriad of things that needed to be documented.

My suggestion was to attempt to keep the basic workflow as similar between old vs new as possible. Not only in ease of training techs but also when it comes to writing the new procedures.

With the introduction of a new system, clearly all new procedures were needed for the new analyzer. Like I mentioned, start up, shut down, maintenance, and the daily workflow were all different compared to the 1000 and needed all new SOPs and quick references written.

Not a copy/paste situation.

Now, there's a tendency to want to copy/paste from one SOP to another. Work smarter, not harder, you all know if you can reuse previously written documentation, that's a smart use of time and resources.

In this situation, it was too drastic of a change. From the methods the analyzer uses to the workflow of the technicians, we could not use what worked previously in our Immulite procedures.

Procrastination delays Go Live

Image: Microsoft PowerPoint
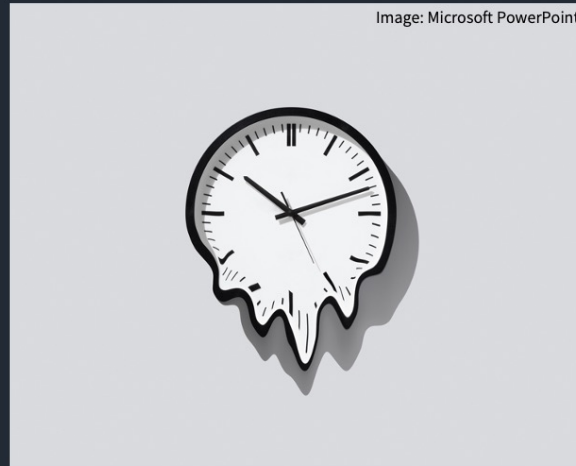
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This turned out to be a difficult task.

Procrastination on starting the procedures not only makes the writing harder by enforcing a time crunch but it has a real effect on the laboratory. It delays the Go Live date.

I'm sure our software friends out there feel the crunch with Go Lives. You understand.

Procrastination due to intimidation is a real risk for our colleagues not used to writing.

So where do our non-writer colleagues need help?

Even for those of us who love it, writing is hard! And starting from scratch is even harder!

We can all empathize with that feeling of a blank document in front of us. Where do you begin?

It's a lot to worry about.

The initial drafts were difficult to follow for even somebody trained on the new analyzer. It took many revisions and lot of brainstorming to get the drafts in working order, further delaying the Go Live.

Image: "Saltie in Tow" (CC BY-SA 2.0) by pmarkham

Non-writers need guidance.

So what was the take-away from this experience?

Non-writers need some guidance to write good procedures.

Everyone should be responsible for writing in the lab, it isn't up to one or two people.
If you can operate the instrumentation, you can write instructions.

We want everyone on the team to be capable of documentation and able to put out good, useable docs.

Know your (nonwriter) audience.

So where do we start?

How do we help our non-writer colleagues?

What helps our laboratorians to produce good procedures.

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Image: Suzy Hazelwood, Pexels

As documentarians, we want to help out our colleagues become documentarians in their own right. We might not be able to inspire the same interest and passion in them as we have but certainly we can convince our non-writers that investing in their procedures or documentation will make their jobs easier and help everybody who reads them.

Just like we need to know our audience as writers, we need to know our non-writers before we can help them.
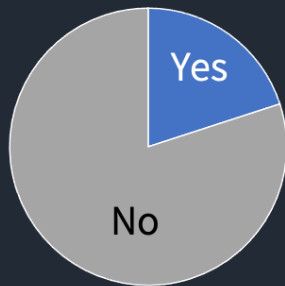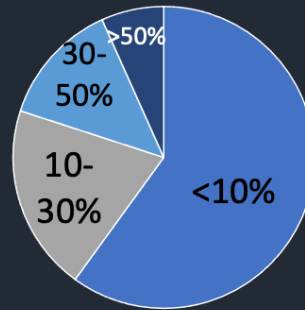
I conducted a survey of lab personnel – from the pathologists to the technologists – to find out what our laboratorians experience with procedure writing was like.

80% of respondents have not taken a technical writing course in college and noted minimal experience writing procedures.

I genuinely wanted to take the temperature of folks' attitude towards writing procedures in their lab section. So let's get an idea of how everyone is feeling!

I asked the laboratorians to use one word to describe writing in the lab.

Okay fun! Let's see how people replied!

"Enjoy" Yay!
"Good" "Satisfying" Nice, relatable!
"Necessary" Yes, absolutely. This was the most used word, by the way.
"Purposeful" Yup. Very neutral.
"Indifferent" Okay, fair.
"Grimace face emoji". The grimace face emoji. Uh-oh. Here we go.
Now here is the bulk of the replies:
"Boring"
"Time-consuming"
"Tedious"
"Exhausting"
"Painstaking" OUCH

Okay okay you got me! Oof. Anybody else?

"Onerus"
Big sigh
Style points for that one.
You get the idea. More negative than positive. Nobody surprised, right?

5.6.3 Enter the # of reactions (samples + applicable extraction controls + applicable PCR controls + ~10% overage to allow for pipetting error).

5.6.4 The fillable section of the form can be used to indicate specific specimen and control locations correlating with a 96-well plate layout.

5.6.5 Print a paper copy of the forms & take them to the clean reagent room. Indicate the date and technician running the assay on the form. List any applicable new reagent lot numbers, if they are put into use, per QR-MOL-21, Putting New Molecular Diagnostics Reagents "In Use".

5.6.6 Prepare a PCR master mix cocktail using the specific reagents listed on the form in the clean reagent room (only using PPE designated for that space).

5.6.7 Dispense the designated amount of PCR cocktail per reaction tube as indicated on the form into the reaction tubes correlating to the test specimens on the form. Cover the tubes with foil or plastic tube rack cover.

5.6.8 Carry the rack containing PCR cocktail to the template addition room.

5.6.9 Add the indicated amount of sample and control template nucleic acid to the PCR cocktail in the designated template addition PCR still-air box.

5.6.10 Seal the reaction tubes.

5.6.11 Vortex strip tubes or gently tap plates against the side of your hand to mix contents. Pulse spin to bring reaction contents to the bottom of the reaction tube prior to loading onto thermalcyclers.

4.3.5 Perform eTest once daily.

4.3.5.1 From the main screen, select **Options** from the toolbar, then select **Maintenance**.

4.3.5.2 Move levers to the "test" position.

4.3.5.3 Select the channel to be tested, one at a time.

4.3.5.4 Click on **eTest** to begin testing.

4.3.5.5 When *eTest value OK* is displayed, select **Done**.

    4.3.5.5.1 **NOTE: eTest range is 1800-2300 mm and optimal baseline = 2050 mm.**

    4.3.5.5.2 If eTest check is out of acceptable range, a message on the screen will display *Channel not at Equilibrium* or *Baseline off center*. Wait a few minutes until skewer settles. If error message persists, <u>make adjustments to</u> the base using the small blue screwdriver tool.

        4.3.5.5.2.1 Located on the back of the instrument, labeled "Base" (one per channel).

        4.3.5.5.2.2 One full rotation adjusts approximately 100 mm.

4.3.5.6 Move levers back to the "load" position.

4.3.5.7 Click **Done** then **OK** to exit eTest.

4.3.5.8 Record results from eTest onto F-CLP-9 TEG Maintenance log.

4.3.6 After running QC and patients, clean the inside edge of each black column with a DI water saturated cotton swab without disturbing the center pin. Repeat as necessary until the column yields no debris.

4.4 Loading cups and pins:

4.4.1 With the lever in "load" position, slide the white carrier down to the platform.

4.4.2 Place the disposable cup and pin in the cup well. Verify the cup pin is standing straight in the cup well.

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I asked for specifics on what folks found helpful in their procedures – either written in the lab or from a manufacturer. Here's some highlights of what folks thought are helpful:

Concise step-by-step instructions. Either clear bullet points or numbered steps, this is the meat and potatoes of our procedures.

The use of bold and italics to break up walls of text and to highlight actions while interacting with user interfaces.

Some more examples.

The use of color helps, especially when you're scanning for the information you need at the moment.

Charts and quick references are very helpful for the day-to-day operations.

One of the biggest complaints was the maintenance of these documents. Things change a lot which means a lot of docs have to be updated on a regular basis. I would argue that revisions are just as important – if not more important – than the implementation of new docs.

Left form:

MAJOR AGGLUTINATING				MINOR AGGLUTINATING		
Tube	Contents	Results	Tube	Contents	Results	
1	Donor 1 cells (1 drop) Recipient serum (2 drops)		4	Donor 1 serum (2 drops) Recipient cells (1 drop)		
2	Donor 2 cells (1 drop) Recipient serum (2 drops)		5	Donor 2 serum (2 drops) Recipient cells (1 drop		
3	Recipient cells (1 drop) Recipient serum (2 drops)		6	Donor 1 serum (2 drops) Donor 1 cells (1 drop)		
	Compatible / Incompatible		7	Donor 2 serum (2 drops) Donor 2 cells (1 drop)		
				Compatible / Incompatible		

MAJOR HEMOLYZING				MINOR HEMOLYZING		
Tube	Contents	Results	Tube	Contents	Results	
8	Donor 1 cells (1 drop) Recipient serum (2 drops) Rabbit complement (1 drop)		11	Donor 1 serum (2 drops) Recipient cells (1 drop) Rabbit complement (1 drop)		
9	Donor 2 cells (1 drop) Recipient serum (2 drops) Rabbit complement (1 drop)		12	Donor 2 serum (2 drops) Recipient cells (1 drop) Rabbit complement (1 drop)		
10	Recipient cells (1 drop) Recipient serum (2 drops) Rabbit complement (1 drop)		13	Donor 1 serum (2 drops) Donor 1 cells (1 drop) Rabbit complement (1 drop)		
	Compatible / Incompatible		14	Donor 2 serum (2 drops) Donor 2 cells (1 drop) Rabbit complement (1 drop)		
				Compatible / Incompatible		

Right form:

Major	Grading 0-4+
Macroagglutination	
Microagglutination	
	Yes/No
Hemolysing	

Minor	Grading 0-4+
Macroagglutination	
Microagglutination	
	Yes/No
Hemolysing	

Interpretation

No agglutination is observed between specimens, this is considered compatible.	
Macroagglutination is present this is considered incompatible.	
Microagglutination of 1+ is considered equivocal, a transfusion reaction could occur.	
Microagglutination of 2-4+ is considered incompatible.	

Here's a great example from our department.

The document on the left was in use for many years. It was there before I was so I don't know exactly how long but let's just say many years.

It's for a test we very rarely perform therefore it wasn't a document that was a priority to make changes to.

You don't need to read the details here but it's a weird conglomeration of a procedure – with the instructions of how many drops of each sample to use – with the form to record results.

Unnecessarily complicated. Which you especially don't want when it's a test nobody is completely comfortable setting up since it's so rare.

Recently, when it came up for review, the procedure was being changed. This was the perfect time to change this form. No longer are procedure instructions included on the result form.

Clarity + Conciseness = Accuracy

Okay, so you're faced with writing a brand new procedure.

To tackle the obstacle of being overwhelmed, it's important to map out the process you're trying to document first. I know this might seem obvious but it's really not to our non-writers. Use whatever makes sense for what you're documenting – an outline, a drawing, diagram, flowchart – it it's intuitive for your process, try it out.
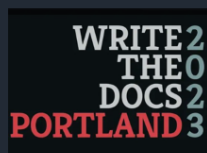
Survey: Flowcharts

80%

Flowcharts are helpful
when reading a procedure

30%

Utilize flowcharts when
authoring procedures

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On my survey:
Other than step-by-step directions, flowcharts were indicated by 80% of respondents
to be the single most helpful tool in procedures.
Okay, that's great! Flowcharts are a great visual.

So those that are writing procedures for their labs are using flowcharts, right?

Nope. Only 30% indicated they had used them in their procedures.

So if we're using rough sketches of flowcharts in our preparation for procedure writing
– let's incorporate them into our procedures!
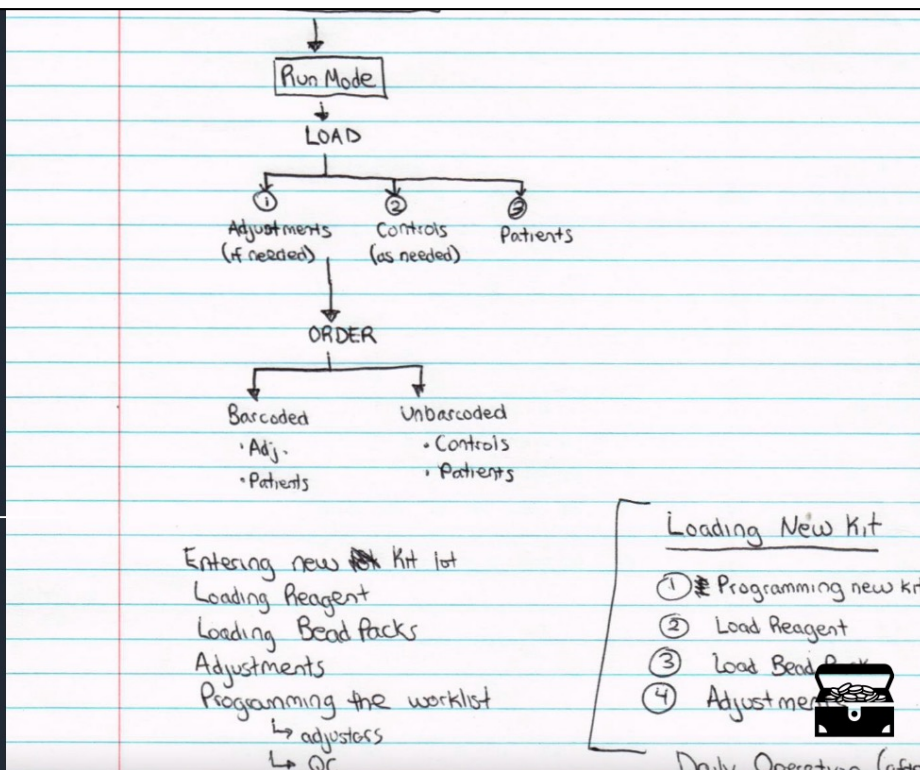
We know they're helpful.
We know our eyes are scanning for visuals over blocks of text.
So let's encourage our new writers to utilize what's helpful.

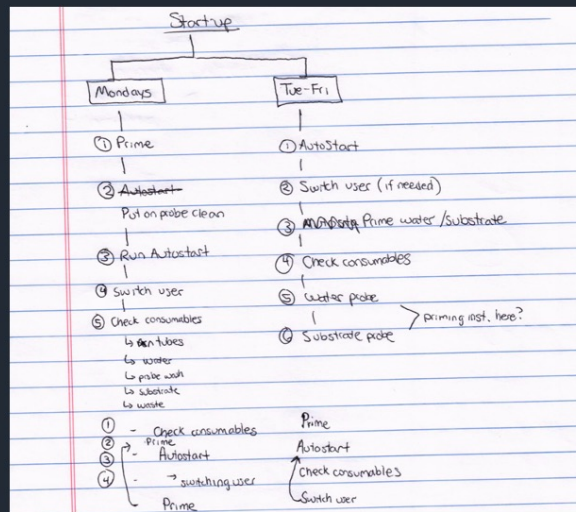Big picture understanding

WRITE2
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A focus on the Big Picture helps keep our non-writers from getting overwhelmed and bogged down in the details too soon.

Where are you starting, what are the major points to hit, and where are you going?

First, you **have** to understand the process. Where are your decision points? Map out your Point A to Point B. Flowcharts are really helpful at this step. Before your non-writer tries to tackle the writing of the step-by-step procedure, there needs to be a rough outline completed.

There is a tendency to skip this step. Especially if you're in a rush. But it's critical to have a map of your Big Picture understanding of what you're documenting.

When you're guiding your non-writer colleagues, emphasize the importance of this step. It also helps them realize if there is any part they **don't** understand.
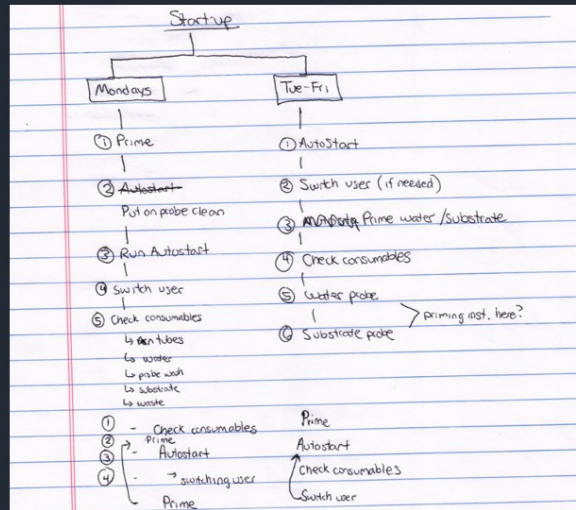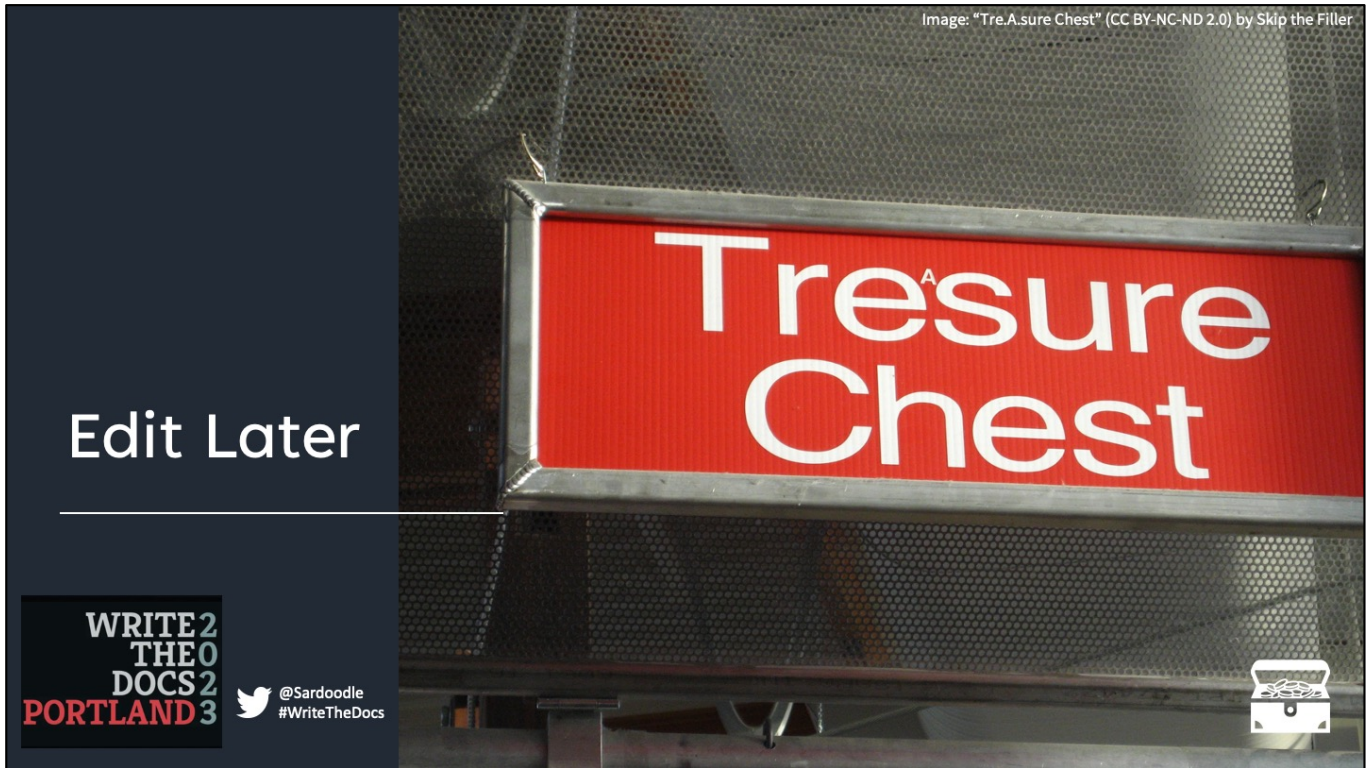
Okay.

Once we have a rough outline, let's fill in those details.

Once we have the actual step-by-step instructions filled in, it's time to try it out.

Edit Later

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My advice at this point is now is your chance to get it all out.

Once you have a bare bones outline, word vomit so you get all your necessary details out. We'll edit it down later.

In our Immulite example, one hiccup that was slowing down the writing process was editing while you go.

It's hard not to. As you finish one section and you read it back, you want to start making changes.

When you're guiding your new writer, discourage that. Editing is for after you have your procedure written.

You have to first focus on making sure you have all your steps. Worry about grammar last.
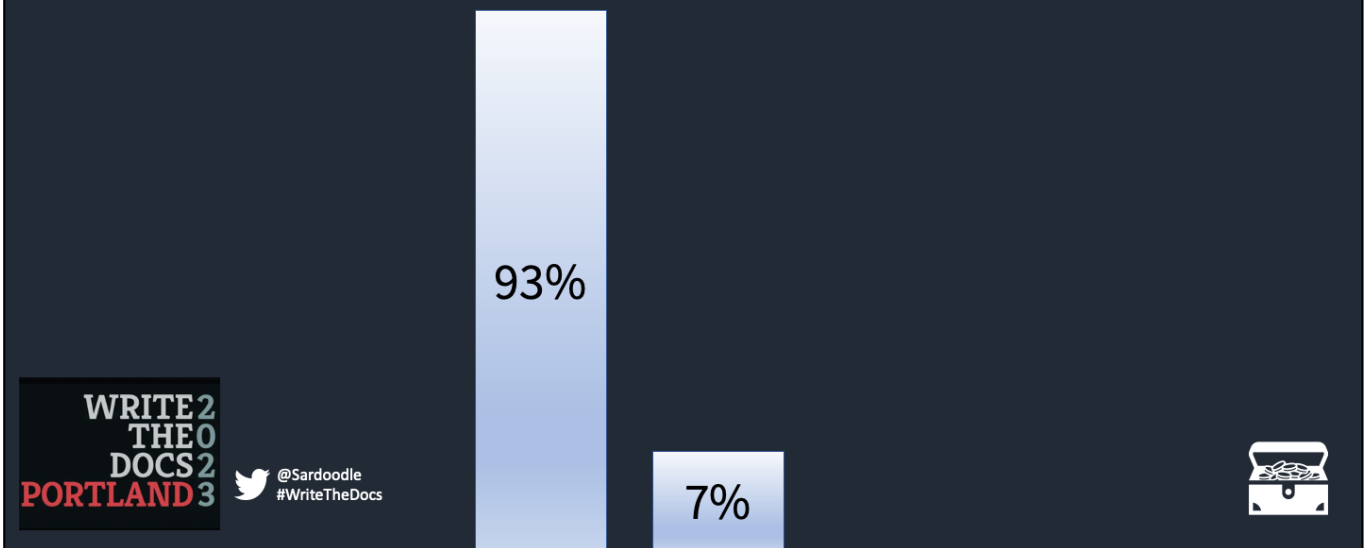
But keep in mind: even in a job where the smallest details matter, we cannot document every single possibility.

Do not get hung up on writing the "what if's". Get rid of the "you"'s, the "should", "might", "could".

Clear and concise wins.

93% of respondents agree. Only 7% said the more, the better.

Don't be afraid to move stuff around and try new ways.

Image: Artem Podrez, Pexels

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Once you've got every step documented on your procedure, it's time to take the red pen out and start editing.

Now is your chance to try different arrangements of steps, ensure it makes sense in your workflow, or play with the organization of your procedure.

Utilize colleagues
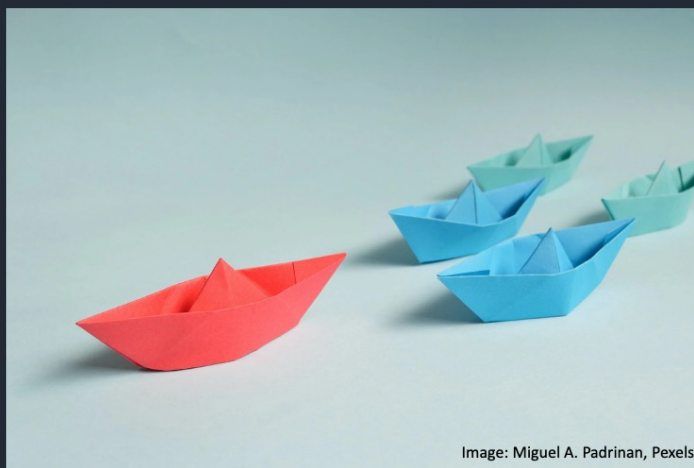or anyone interested in learning something new!

Image: Miguel A. Padrinan, Pexels

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Now is a great time to grab someone who wants to learn something new! Interns, interested colleagues, managers, anyone who might share a stake in what you're documenting.

We have undergraduate lab assistants with fresh eyes who are invaluable in noticing anything that doesn't make sense. If they have questions, it's completely possible you're missing an obvious step.

These folks, your interns/assistants/etc., will also notice missing documentation or new quick references that would make their jobs easier.

In our lab, a temporary technician who we hired from her stellar performance as an undergrad lab assistant, suggested the *single most useful* quick reference we have for our chemistry bench. We all use that document every single day and it saves us from memorizing values we don't need to and saves time, not having to dig through individual SOPs.

Why did we go so long without having that in front of us?

It's the fresh eyes of someone who notices something like that, that makes it easier for everyone.
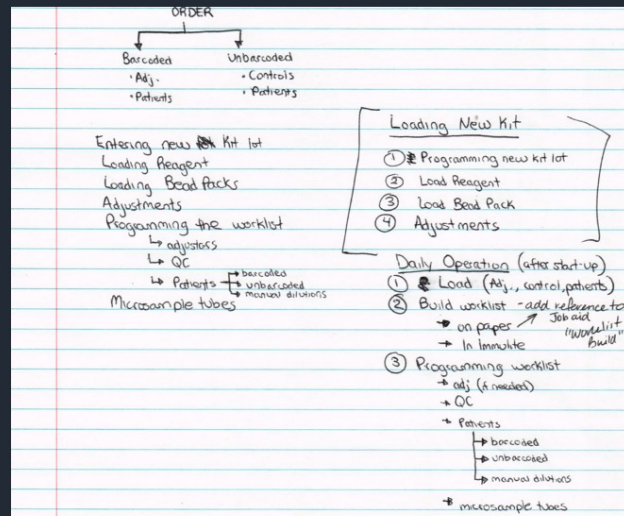
This is also a great opportunity to reflect on workflow and workshop different options.

In our Immulite example, I created a worklist to fill out in order to help us keep track of what we're ordering and make sure we slow down and manually enter information correctly.

We tried out running samples in batches instead of one by one.

If it doesn't work out – no harm done. At least you tried something new.

If it works out – you've saved time, or created a solution for catching mistakes earlier or even better, prevent them from happening in the first place.

This is sometimes the only time you'll have to try this out, especially in the beginning when everyone is learning the new procedure.

Take advantage of this time and change things up.

Develop Advocates

Image: Rogerio Rondon, Pexels

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So how do we develop advocates for good documentation in the lab and in every workplace?

I definitely recommend surveying those responsible for documentation. Take the temperature and see where improvements can be made. What are the frustrations? What do folks want or need? It also can help you know where you can offer guidance to those struggling.

Utilize templates and style guides – it might seem obvious but explain the benefits of using a style guide. This makes the arduous task of writing a little simpler for those reluctant to being involved in the documentation process.

Style guides also help them understand what the expectations are – AND with a template, you're not starting with a blank page!

Stakeholders should read and edit the draft.

Image: pxfuel

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When it comes to creating new procedures, it's important to have everybody who will be doing that procedure read and edit it for clarity.

The more trained eyes, the better.

Involving those with a stake in the process creates a sense of inclusion and responsibility. Ultimately these docs are here to help.

If a well-rounded team of different folks are involved in the creation and maintenance of documentation, that is a great step towards creating a culture where good docs are valued. It makes everyone's life easier. No keeping details "in my head". That doesn't serve any purpose in a team. Identify any process that exists only in someone's head and get it out so everyone can benefit from it!
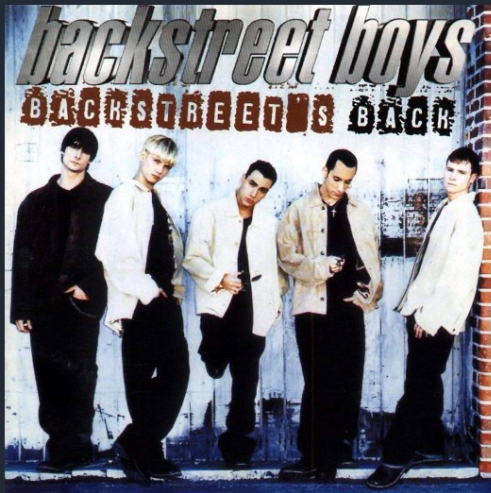
Before I wrap this up, let's summarize what we've talked about.

Procedures being the absolute backbone to the laboratory, we need everyone on board with writing, revising, and advocating for the development of great docs.

The biggest advantage: it makes your job easier. It makes training easier, it makes answering client questions easier when you know exactly where to look for answers, and when things catch on fire (once – that was literal) you know where to turn….a manufacturer's manual that says CALL SERVICE. Haha I'm just kidding. But I'm not.

Get to know the needs of your documentarians, find out what they could use to make the work less painful for them. Creating a culture of positive attitudes towards procedure writing starts with listening to what your audience needs. Don't forget to utilize tools at your disposal and start the process early with a good solid foundation made from outlines, flowcharts, or any diagrams that help cement the understanding of what you're trying to document.

I want to leave you all with one final piece of wisdom to share with anyone you work with that has a hand in docs. Everybody. Right?

This handy checklist comes from some of the brightest, eloquent, dare I say Iconic wordsmiths of the late 20th century:

The Backstreet Boys.

Wait, hold on, hear me out.

When it comes to writing docs:

Am I original – or - Is this a new process to document? Write the docs.

Am I the only one – or - Is there nothing else that currently exists that could be used? Write the docs.

Okay sometimes you have to edit the greats….

Am I everything you need – or - Is this going to be something that could help you? Write the docs.

You know what's next:

You better rock your body now! Or just get writing!

I'd like to thank the Write the Docs community for being so inviting.

This was my first time doing this and I would love your feedback. Please reach out to me! Thank you all so much for your time.