

Hypertension Research Group Lab Manual

By Associate Professor Francine Marques

Dear lab member,

Welcome to the Hypertension Research Lab at Monash University!

We are very happy to have you with us and will do everything we can to ensure you have an amazing (and scientifically productive) time here.

This lab manual was developed to address common concerns lab members might have and to create best practices for our lab. This manual was inspired by others, and borrows from them (from [this one](#), [this one](#), [this one](#) and the Merry Lindsey Lab). While we hope you find it useful, if there is anything else you need to know or to clarify please talk to me (Francine, the lab head). This will be an evolving manual – feel free to suggest changes and additions!

My personal vision is to ***empower and support others to become the best version of themselves*** – this relates to becoming the best scientist you could possibly become, but also to find a career you love, and improve and maintain your health. Overall, my mission is to support those around me to become an overall happier person doing whatever you do to make this world a better place.

I assume the lab manual and wiki (check the Google Drive, they are always being updated!) are accurate. This means that you should follow all the policies and protocols contained in the manual and wiki. If you notice something that seems to be wrong, please let me know. If there is something in the lab manual or wiki that you notice people aren't doing, please bring this up at lab meeting, or to me, privately—don't assume this is okay (it's not!).

When you join the lab, you're expected to read this manual and sign a form indicating that you have done so.

We hope you have an amazing journey with us!

Best wishes,

Fran and team

Lab website: <http://www.marqueslab.com/>

Some inspiration to get us started! Science can sometimes be tough – sometimes hypotheses and experiments don't work, but the outcomes (being the learning experience or the scientific results) are still important.

“Success consists of going from failure to failure without loss of enthusiasm.”

Winston Churchill

“I never lose: I either win or I learn”

Nelson Mandela

Mission statement

The purpose of our laboratory is to ***build exceptional scientists that help to improve cardiovascular health.***

We develop multidimensional approaches to examine the mechanisms that regulate blood pressure and how it leads to cardiovascular disease, while creating a productive and friendly environment where we can educate the next generation of scientists. We work in multi-disciplinary teams that reflect the complexity of blood pressure regulation to facilitate advancing research and translation of our findings.

Lab goals

Our #1 goal is to support our people to do the best research possible. In order to maintain this goal, lab members are expected to follow our values and the behaviours that support those values, that we define as a team.

As a team, we decided these are our research values:

- 1- Integrity
- 2- Team work
- 3- Innovation

And our team's culture values:

- 1- Ballance
- 2- Respect

As a team, we have put together a list of behaviours that are associated with these values, and behaviours that we do not tolerate, which I expect you to read (see appendix). We remind each other of these values when we see people behaving against them. We also celebrate when people live within those values on a regular basis and in our annual lab awards.

Lab member expectations and responsibilities

In my experience over the years I have noticed that there are issues in each team when people don't communicate their expectations from each other. Thus, I prepared a list of what is expected from all our lab members.

Everyone

Big picture

- Do work that you are proud of. Do work that others will care about.
- Double-check your work. Being a little obsessive is essential to good science.
- Be supportive of your lab mates. We are a team.
- Work independently when you can, ask for help when you need it. It is okay to ask!
- Share your knowledge. Mentorship can take many forms.
- Respect each other's strengths, weaknesses, differences, and beliefs. No type of discrimination or harassment are tolerated.
- Work safely and keep a safe work environment for all.
- I don't expect you to be best friends with your lab colleagues (you can if you want to 😊), but I expect you to keep a good working relationship and help each other if needed.
- Science is a marathon, not a sprint. Take personal time/vacation when you need it and cultivate a life outside of the lab. Respect that other lab members also have a life outside of lab.
- Communicate openly and respectfully with other members of the lab.
- If you have an issue with another lab member that cannot be solved by talking with them about it, please talk with me (Francine). If you have an issue with me, please reach out to another member of the School who can intervene (this can be the lab manager for smaller lab issues, or another faculty member for more serious issues).
- Academia may feel different from other types of jobs, but it is still a job. You should treat it with the same respect that you would treat any other position (see Hours).
- During COVID-19 we saw a shift in the ability to work from home. Unless the government and the university direct us to work from home, we are all expected to work from the campus unless this is negotiated upfront. The right to work from home is something we all must earn.
- Keep everything awesome! We want you to love working here as much as we do!

Small picture

- We're sharing space with our team members and other teams, so please be thoughtful of others.
- Do not come into the lab if you are sick. Stay home and get healthy, and don't risk getting others sick.
- Notify the lab manager or me if you will be out, either due to illness or vacation. If you are sick and you had experiments or meetings scheduled that day, notify your colleagues, participants or collaborators, and reschedule.
- You are not expected to come to the lab on staff holidays (such as the Christmas break or Friday Easter), but please check Monash's holidays as we don't get all through the year.

- Keep the lab tidy and clean. Food and drinks are not allowed in the lab, and common areas should be kept free of clutter. Items left unattended may be cleaned, reclaimed, or recycled. If you're using lab equipment, put it away when you're done.
- If you need to borrow something from another lab member or another research group, please ask first. If you couldn't ask first, ask later.
- The dress code in academia is generally casual. Jeans are fine, pyjamas are not. My only request is that you look semi-professional if interacting with participants and when presenting your work. Also remember to wear appropriate shoes if working in the lab.
- Help us to keep the lab neat and clean – it will decrease risk of contamination and experiments not working for everybody else.
- If we are running low on something please ask the lab manager to order more, and I will revise all orders and approve them asap. Reagents can take a long time to arrive in Australia, so plan your experiments well in advance. Also please communicate with the whole lab if you are going to order something. Shipping costs are high and you should make every effort to keep expenses to a minimum by ordering from the same company as one order.

Lab head - Francine

You can expect from me all of the above, plus to:

- Treat you to coffee and, if possible, bring you a birthday cake 😊
- Maintain a vision of where the lab is going and be passionate about what we do.
- Obtain the funding necessary to keep the lab going.
- Meet with you regularly to discuss your research projects. The definition of "regularly" may change over time or over the course of a project, but for now, I mean once a week/fortnight or as needed.
- Give you my perspective on academia and issues related to professional development.
- Support your career development by introducing you to other researchers in the field, writing recommendation letters for you, providing you with opportunities to attend conferences when possible, and promoting your work in talks.
- Care about you as a person and not just a scientist – as a mental health first aider, I will listen to you and try to help if you have issues outside the lab too.
- Maintain "office hours" for the lab and respond emails within 48 hours (unless I am away). You are welcome to call me on my mobile if there is anything urgent if I am not in my office or online on Slack. I should note that sometimes I work odd hours, and that's a personal choice. If I thought of something and emailed/Slacked you after hours, I don't expect you to respond until it is reasonable for you to do so.
- Make time to read your manuscripts and obsessively edit what you write 😊 I always try to do it as fast as I can but during busy periods (e.g., grant writing or teaching) this may take up to 2 weeks. Please plan accordingly.
- Provide you with a safe work environment.
- Talk about science.
- Your success is my success, so do not hesitate to ask me for help in getting you to the next level.

Postdocs

All of the “Small picture” and “Big picture” stuff, plus you will be expected to:

- Develop your own independent line of research.
- Mentor undergraduate and post-graduate students on their research projects, when asked or when appropriate.
- Apply for external funding and sometimes help me apply for funding. I will hire postdocs only when there is funding available for at least a year; however, applying for external funding is a valuable experience and, if awarded, it will release those dedicated funds for other purposes.
- Apply for fellowships if we decide you are competitive to secure your own fellowship.
- If you are planning to pursue a non-academic career, treat your postdoctoral research as seriously as you might if you were pursuing an academic career. We can discuss ways of making sure that you are getting the training you need, while still doing excellent research.
- Be respectful with others in the lab and outside the lab, and behave respectfully and appropriately if you are communicating with our collaborators as you are representing the lab.
- Keep a safe work environment for all.
- Remind me (the lab head) that different scientific opinions can co-exist in the same lab!

Research assistants, dietitians and lab managers

All of the “Small picture” and “Big picture” stuff, plus you will be expected to:

- Maintain the lab protocols and paperwork.
- Oversee the training of students and other research assistants.
- Assist with participant recruitment and scheduling (if needed).
- Assist other lab members with data collection. This might need some flexible hours.
- Help to maintain an atmosphere of professionalism within the lab.
- Work on your own research project.
- Maintain the lab stock.

PhD and Master students

All of the “Small picture” and “Big picture” stuff, plus you will be expected to:

- Develop a line of dissertation research. Ideally, your dissertation research will consist of 2-3 independent studies that can be packaged into one thesis document. I would personally prefer that you submit a thesis by publication if possible as it makes our lives and careers much easier.
- Apply for small external funding and travel grants. If nothing else, this is an extremely valuable experience, and will help you improve your CV.
- Do some soul-searching as to what type of career you want to pursue, e.g., academic jobs that are research-focused or teaching-focused, non-academic jobs like data science or science writing. We can brainstorm ways of making sure you are getting the training that you need.
- Work with a team of students and collaborate with others in and outside our team. This will speed up data collection for all, help you get some more papers out, and give you some experience with managing and mentoring a team.
- Stay up-to-date (and keep me up-to-date) on any deadlines that you need to meet to fulfil your degree requirements.

- While I encourage you to do some teaching to get extra cash, I expect you to prioritize time for research. It is easy to get caught up in coursework or teaching, but at the end of 3-ish years, you need to have completed a dissertation. If you work as a TA for 3 hours per week, I suggest you make time to spend 3 extra hours of your week in the lab to make up for those hours.

Honours and undergraduate students

All of the “Small picture” and “Big picture” stuff, plus you will be expected to:

- Assist other lab members with data collection or analysis (typically you will be assigned to particular projects and work with someone).
- Work with your research mentor to determine your weekly schedule. If you are not able to come in during your normal scheduled time, you must let your research mentor know.
- Provide extra support to the team (this may include filing paperwork or helping with other experiments). If you are in lab and do not have a task to do, you should ask the lab manager or your supervisor whether there is anything you can help out with.
- Undergraduates who work in the lab for half or a full year and have a significant contribution to a project may have the option to be included in a manuscript preparation and publications, and might receive support to attend a conference to present their work (if they are first author).

Volunteers

All of the “Small picture” and “Big picture” stuff, plus you will be expected to:

- Work with your research mentor to determine your weekly schedule. If you are not able to come in during your normal scheduled time, you must let the lab manager know.
- Be respectful and listen to your research mentor. We are usually very accommodating and will do our best to give you opportunities to learn and do experiments (depending on ethics, how precious reagents and samples are, and your own experience - sometimes you might only be allowed to observe). If we have any reason to believe you are not listening to our team members, you might be asked to leave and your time with us will cease immediately.

If you are earning course credit for research, you must additionally:

- Attend our lab meetings and journal clubs every week.
- Present at one meeting during the semester.
- Write a short essay on your research topic or experiences at the end of the semester.
- Even if you speak with me in person, it is important to document any requests (and my approval) over email so that we have a record. It is your responsibility to make sure this happens.

Communication

Good communication is very important for any workplace to work well, and it is something very important to me. If you don't tell me or others what you need we can't help you to achieve big things!

I am usually busier than I'd like to be, and as a result have less time for talking to people than I'd like. However, ***you (lab members) are the most important part of my job***, and I need your help to stay organized and involved in the things I need to be involved in. Some general rules of thumb are:

1. **Be proactive—tell me what you need.** This includes coming to knock on my door or message me on Slack even if it seems like you are interrupting, emailing me to set up a time to meet, or catching me before or after lab meeting. In all likelihood I will not check in with you as often as I'd like, so it is up to you to make sure nothing falls through the cracks. If you need me to be present in a practice or talk, or be in the lab with you, please make sure this is in my calendar. My calendar fills up quickly these days and if it is not there I will likely not be available at the time you want.
2. **Write things down and remind me what we've talked about.** I would love to remember everything we decided when we met last week, but this doesn't always happen. So it is your responsibility to keep meeting minutes up to date in a folder that I have access to (ideally in our Google Drive). This is also a great way to check we are making progress and address any issues. Don't hesitate to bring me up to speed when we meet. Even if I already remember what we are talking about, a couple of introductory topic sentences will help get me in the right frame of mind.
3. **Be sure to write down everything in your lab notebook (see more details below) and keep your Google Drive folder updated too!** It is your responsibility for keeping a hard copy and electronic copies of experiments and results (in the lab shared folder). Also read all of the lab documentation: this lab manual, the lab wiki, protocols. You are responsible for knowing what is in each of these places, following the rules and guidelines we have setup, and notifying someone if you find incorrect information (or if you have questions).
4. **My door:** Metaphorically my door is always open, but sometimes my door is, physically, closed (or might not be there). If this is the case please knock or message me on Slack – if I am not in another meeting I am happy to help to solve any life or lab crisis. If I am not in please call me on my mobile 0425075884 if it is urgent or email me if you can wait 48h for a reply.
5. **If there is a problem, try to solve it.** If the problem is someone's behaviour try to solve it directly or, if not possible for whatever reason, come and have a chat. Keeping a good work environment in the lab is one of my priorities and I need your help to make sure that happens.

Code of conduct

General

Many topics were covered already in the Lab member expectations & responsibilities section.

In addition:

All members of the lab, along with visitors, are expected to agree with the following code of conduct. We will enforce this code as needed. We expect cooperation from all members to help ensuring a safe environment for everybody. Please also see the Monash University [Discrimination and Unacceptable Behaviour Policy](#).

Your safety is also one of my priorities, and this is not something I take lightly. Please see the Wiki page for details on risk assessments, ChemWatch, training records and safety.

The Quick Version

The lab is dedicated to providing a harassment-free experience for everyone, regardless of gender, gender identity and expression, age, sexual orientation, disability, physical appearance, body size, race, or religion (or lack thereof). We do not tolerate harassment of lab members in any form. Sexual language and imagery is not appropriate for any lab venue, including lab meetings, presentations, or discussions. Both are taken seriously and can be reported to the university as misconduct.

The Less Quick Version

Harassment includes offensive verbal comments related to gender, gender identity and expression, age, sexual orientation, disability, physical appearance, body size, race, religion, sexual images in public spaces, deliberate intimidation, stalking, following, harassing photography or recording, sustained disruption of talks or other events, inappropriate physical contact, and unwelcome sexual attention.

Members asked to stop any harassing behaviour are expected to comply immediately.

If you are being harassed, notice that someone else is being harassed, or have any other concerns, please contact me immediately. If I am the cause of your concern, then please reach out to the head of the School or another trusted academic member who can assist.

We expect members to follow these guidelines at any lab-related event. If you are in a conference representing the lab I also expect you to behave accordingly.

Scientific integrity

Reproducible research

Reproducible research is research that can be exactly reproduced. This is related to replicability, in that it has to do with your ability to get the same results again, but it refers specifically to getting the same results given the *same set of data*. I expect that all of our research will be, at minimum, reproducible (I hope that it will also be replicable).

Conducting reproducible research is more difficult than it sounds, because it requires that you are organized and possess sufficient foresight to document each step of your research process. The main thing you can do to improve the reproducibility of your research is to extensive note-taking to make sure you can repeat experiments in the same amount of detail again: add explanatory comments, document every step of data analysis and ensure you have the appropriate controls for your experiment.

Experiment pre-analysis plans

I suggest you present your experimental design at a lab meeting, before you submit an ethics application or finish an experiment. Feedback is very important in science and it makes things clearer.

Authorship

We will follow [ICMJE guidelines](#) with respect to authorship, which is based on the following criteria:

- Substantial contributions to the conception or design of the work; or the acquisition, analysis, or interpretation of data for the work; AND
- Drafting the work or revising it critically for important intellectual content; AND
- Final approval of the version to be published; AND
- Agreement to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

According to ICMJE, “in addition to being accountable for the parts of the work he or she has done, an author should be able to identify which co-authors are responsible for specific other parts of the work. In addition, authors should have confidence in the integrity of the contributions of their co-authors. All those designated as authors should meet all four criteria for authorship, and all who meet the four criteria should be identified as authors. Contributors who meet fewer than all 4 of the above criteria for authorship should not be listed as authors, but they should be acknowledged. Examples of activities that alone (without other contributions) do not qualify a contributor for authorship are acquisition of funding; general supervision of a research group or general administrative support; and writing assistance, technical editing, language editing, and proofreading.”

Authorship will be discussed prior to the beginning of a new project, so that expectations are clearly defined. However, changes to authorship may occur over the course of a project if a new person becomes involved, if someone leaves (and leaves a study unfinished) or if someone is not fulfilling their planned role. In general, I expect that post-graduate students and postdocs will be first authors on publications on which they are the primary lead, and I will be the last author.

Old projects

For projects that required significant lab resources (e.g., any study that required a great deal of time, money or lab effort), project "ownership" expires 1 years after data collection has ended (or whenever the original primary lead relinquishes their rights to the study, whichever comes first). At that point, I reserve the right to re-assign the project (or not) as needed to expedite publication. This policy is intended to avoid situations in which a dataset languishes for a long period of time, while still giving publication priority to the original primary lead.

Mistakes in the lab

While it is not OK to make mistakes in purpose, I understand that they can happen to the best of us. Please be honest about it and tell me, I promise I won't be mad. We can talk about what happened and how to avoid mistakes in the future.

Most mistakes can be avoided if you have read the protocol and planned careful, and also if you not tired. If you are tired, perhaps it is not the best time to start a new protocol. If you are unsure ask for a colleague to do the experiment with you. A lack of candour, lying to me or your team members will not be tolerated.

Conference attendance and abstract submission

I am really supportive of conference attendance, but if you expect to present data produced by the lab and expect that the lab will contribute financially we have a few rules. The number

one and most important is that we discuss which conference, data and authors are involved. Assuming I agree that 1) the work should be presented at a conference, 2) that this is the best conference for you to go to and 3) the lab has money to support your attendance, the second rule is that you need to give me an abstract draft at least 2 weeks before the deadline for submission. This is important so I can check that it is well-written, the data interpretation is correct and that all co-authors that contributed to the study are included. I will review it, discuss it with you, give you important feedback and then distribute to all co-authors giving them a week (ideally) to make any changes.

It is not okay for anyone to submit an abstract without checking with me first as this can lead to issues publishing data and fall out with collaborations that I have worked very hard to establish and maintain. If you go ahead and submit an abstract without following the outlined guidelines above I will ask you to withdraw the abstract.

Animal research

Because we are engaged in animal research, it is of the *utmost importance* that we adhere to our approved protocols. All lab members must be trained (and keep record of training) before they can handle mice and do any experiments in animals. Also we can only do experiments that have been described in the animal ethics application that has been approved. If there are any questions about the protocols, or if you're not sure whether we have approval to run your study, please ask me for clarification. If necessary, we can file an amendment to an existing protocol, create a new application or submit an incident report. **It is fundamental that we keep good records of animal care and use as we can be audited at any time!** This includes recording training, mouse wellbeing and experiments (both soft and hard copies), and any deaths. If there are any sudden deaths or you need to euthanise an animal please notify me urgently. In some cases, we may need to report this information to the AEC.

Human research

Similarly, because we are engaged in human research, it is of the *utmost importance* that we adhere to our approved protocols. **All lab members must read and comply with the consent form and research summary for any project that they are working on.** Lab members must also complete all training and be added to the research personnel list before they can work with human subjects. If there are any questions about the protocols, or if you're not sure whether we have approval to run your study, please ask me for clarification. If necessary, we can file an amendment to an existing protocol or create a new protocol.

If you encounter any problems in the course of doing research that results in a negative outcome for the participant (e.g., if a participant becomes ill or upset, if there is an accident with the equipment, if there is a breach of confidentiality, etc), you should immediately seek assistance from me. If I am not around, you must notify me *within 24 hours*, preferably as soon as possible. In some cases, we may need to report this information to the HREC.

Work ethics and general policies

Hours

Being in the lab is a good way to learn from others, help others, build camaraderie, being relatively free from distractions at home (e.g., your bed, Netflix, or puppies). That said, one of the benefits of a career in academic research is that it is typically more flexible than other

kinds of jobs. However, you should still treat it like a real job. If you are employed for 40 hours a week, you should be working 40 hours a week. This applies to research assistants and postdocs. You are not required to work over-time but you might be asked to have some flexible work hours some days (for example, if you have a participant that can only come at 7 am or a large animal euthanasia that someone needs help with). For graduate students, I recognize that you have other demands on your time like classes and teaching but still expect to see you in lab, doing research, often.

There is no need to be sitting around the lab if it is a slow week and you need to wait before the next step (and the lab is spotless, and no one else needs a hand with anything, and it's not slow because of poor planning on your part). By the same token, some weeks will be so busy you hardly have time to grab lunch in between experiments. If you are efficient, you should be able to complete all experiments within a normal business day and still have time to clean and re-stock supplies before you leave.

I usually work early and late in the day, and might reply to emails in usual hours. That is my choice to do so, but I want to make it clear that I do not expect you to reply to my emails in unusual hours (unless it is urgent, which I would indicate in the title or probably contact you on your mobile).

Does it matter what time I arrive or start? I encourage everybody to keep regular office/working hours if possible (e.g., somewhere in the ballpark of 9-5), even if working from home. It doesn't matter to me whether you start work at 9 am or 1 pm, as long as you get your work done and honour your commitments we arranged in our meetings. However, during non-COVID-19 times, in order to support lab interaction, I expect that all lab members will be in the lab, at minimum, most weekdays between 11am and 3pm or so (unless in vacation, sick, have doctor's appointment, family issues, etc).

Leave

All full-time staff and students are entitled to 20 working days of personal leave per year (or relative to that if you work part-time). I encourage you to re-charge your batteries when you need it. Just schedule ahead of time so we aren't left scrambling. Time off should be requested at least 1 week in advance, via email. Once approved, please submit it at my.monash (for staff only). You are responsible for making sure you have sufficient vacation hours to cover any time off. Please also add your leave to the Hypertension lab shared calendar so we know when you are away and can plan experiments accordingly.

Sick leave does not come out of your personal leave, but it should also be informed over email and registered at my.monash (staff only).

Work-life balance

Life as a scientist can be very busy and, for some, stressful. I urge you to try to maintain a work-life balance. I expect you to work hard when you are in the lab but remember to spend time doing things you enjoy outside the lab too. Make sure to make time for your friends and family and keep a hobby outside the lab ☺

Cooperation

When you are new, there will be a lot of details you do not know. Take advantage of the long-termers and get their help. In turn, you can mentor the next newbie coming in. A mutually supportive environment makes working here fun and will make our results strong.

Language

We have a very multicultural team, which adds diversity to the research we do. Most of the lab speaks (at least) two languages, but English is the accepted language for the scientific community and the official language of the lab. If you want your lab team to think you respect them, you will try to speak English fluently. You will greatly benefit yourself if you practice your English (this is true for native & non-native speakers).

Laboratory work

You are responsible for doing the work in your project, especially if you are a student and the work is part of your thesis. Research assistants can help when someone is unable to come in (for example, if they are sick or are away) and when there are big experiments planned that require more than one pair of hands. However, if this is part of your thesis it is your responsibility to get it done.

Laboratory Cleanliness

We share the lab space with >5 other groups, so people walking by can look in and see our lab space. A disorganized, dirty, and cluttered lab will tell everyone that we are disorganized, dirty, and cluttered. The logical conclusion will be that our research is sloppy, too. A clean and uncluttered lab will send the message that we are serious about our work, care about our results, and are at the top of our game. Therefore, it is important that we keep the laboratory very clean. To date, I have not assigned chores to folks but rather relied on individuals to do their part. It is most definitely YOUR responsibility to make sure that the lab is left clean each night before you leave. If you see the lab slipping, it is your job to get things back on track. If someone has left a mess, let me know and I will come in and help clean it up.

Laboratory Notebooks (please see the Lab notebooks PowerPoint)

Keeping a great lab notebook is an absolute requirement in this laboratory. The expectation of all members of the Hypertension laboratory is that detailed records of every experiment are maintained for all projects. It is the responsibility of the person performing an experiment to document the experiment fully and in a timely manner.

Records should include enough details to allow:

1. Your work to be reproduced by others (the same experiment done on a different day or by a different person should yield the same result);
2. Your work to be transferred easily into formal reports, papers, and presentations;
3. Steps to be retraced, in case a discrepancy occurs;
4. Contractual requirements for scientific production to be fulfilled;
5. A confirmation of research integrity and give us a defence against allegations of fraud. Records defend patents and proof of novelty claims.

A great notebook is one in which I can open to the index, find a particular experiment, go to it right away, and understand completely what you did and if there were any variances in this experiment compared to the usual. Specific notes:

- The first pages of your notebook are the index page, i.e. add a line for each experiment and page number.
- Because we have well-developed protocols for most of our experiments, you can print out the protocol & use this as a template to make notes on. There is no need to re-write common protocols. (However, I highly encourage you to always be thinking of ways to improve our ability to answer questions by coming up with new techniques and innovative approaches. Never think that the way we do it now is the only way it should be done. I am very open to suggestions in this arena.) Each experiment will have a date, and each page in your notebook needs to have a page number. For each experiment, you should document details that are specific for that experiment. Examples for a Western blot protocol include antibody source & dilutions; exposure times, lane details, etc. Plan to show me your lab notebook when you first set it up & then one month later, in case we need to make any adjustments. All this information also needs to be added to your folder in the Google Drive so it is available for you and me to access any time.
- It is much easier to fill in details along the way than to try and remember later what it is you did.
- Always use ballpoint pens when filling out forms; pencil and white out are not appropriate. Write legibly. Never remove pages from a notebook. One line through the mistake is sufficient; making sure the item can still be read. A notation as to why the item was changed is important if different data are recorded.
- Missing data causes huge problems on many levels and should be avoided. In case a data point is not recorded, the reason why should be noted (this is for completeness and not for blame).
- A “failed” experiment (one that doesn’t work how you thought it would) is just as important to record as the “perfect” experiment. Key findings have been made based on a “mistake”. “Practice” experiments should also be recorded. In all cases, observations made along the way are the foundation of new hypotheses.

Data analysis

I will discuss the best strategy to analyse the data with you, and if you are not sure, I will show you how to. I will also check all analyses you have done, especially in the beginning until we have worked together for a while. I usually use GraphPad Prism for graphing and basic animal data analysis, and SPSS for human data analysis; other lab members prefer to use R. If you are analysing large and complex datasets such as gut microbiome or metabolites, I suggest you learn how to use R or other coding packages. We can teach you how to use R or direct you to course to learn more.

Writing

If you are first author of a manuscript I expect you to write the first draft. If you haven’t done this before, I will discuss with you some headings and a format and give you heavy advice (and probably editing), but I still expect you to write the first draft – I can assure you it gets easier with time and you won’t be doing it all alone! I will always give you plenty feedback so that you can learn and develop good scientific writing skills.

Lab Resources

Slack

Slack will be used as the primary means of lab communication, such as general lab announcements (#general), sharing links, sharing and/or discussing papers (#papers), and basically any message that can be sent without email. I really like when people share papers they find.

Try to keep each channel on topic, so that people can subscribe only to the channels that concern them. For messages to one person or a small group of people, use the direct message channels. Full-time lab members should install Slack to their computers and/or phones. Part-time lab members should check Slack regularly. I get Slack updates on my phone and have do-not-disturb mode enabled for evening and night hours (meaning I will not get your messages then); I encourage you to do the same.

Lab Google Drive

We have a shared Google Drive where I expect you to regularly add your data and drafts. Remind me to add you if I haven't already done so. You will also find there a folder with lots of papers that you are welcome to add to (and a folder with papers for newbies to read too), all our lab protocols and other important files. You have access to the Google Drive anywhere in the world. That also helps us to make sure your data is always saved elsewhere and accessible to me to check.

Bookings

If you need to use equipment in the lab that belongs to us, please put a note on it. If it gets busy we can look into setting up a Google calendar. For equipment that belongs to other labs or is shared, please ask to get training first and make sure you follow their booking protocols and rules.

Meetings

Weekly lab meetings

Weekly lab meetings will be focused on project presentations and going over new data or methods. Lab meetings will last no longer than 90 minutes. If at the end of the time, we need more time to discuss something, we will either take a break before continuing or schedule another meeting. All full-time lab members are expected to attend the weekly lab meeting. All part-time lab members (including undergraduates) are welcome to attend but attendance is not required.

Journal club will be focused on discussing new and/or important research articles. We usually discuss a single article that everyone has read.

Individual meetings

At the beginning of each year, I will set a schedule to meet with each lab member for at least 30 minutes once per week or fortnight. If we do not have anything to discuss in a given week, that's fine - we can just say hi, talk about Melbourne weather or cancel it.

Deadlines

If you need something from me by a particular deadline, please inform me as soon as you are aware of the deadline so that I can allocate my time as efficiently as possible. I will expect at least one week's notice, but I greatly prefer two weeks' notice. I will *require* two weeks' notice for letters of recommendation or to give feedback on drafts (so that I can also send it to co-authors). If you do not adhere to these guidelines, I may not be able to meet your deadline. Please note that this applies to reading/commenting on abstracts, manuscripts, rebuttals and thesis, in addition to filling out paperwork, etc.

Presentations

I encourage you to seek out opportunities to present your research to the School, research community, or general public. If you are going to give a presentation (including posters and talks), please be prepared to give a first practice presentation to the lab at least one month ahead of time, and second practice 1-2 weeks ahead. Not only will this help you feel comfortable with the presentation, it will give you time to implement any feedback. I care about practice presentations because a) presenting your work is a huge part of being successful in science and it's important that you practice those skills as often as possible, and b) you are going to be representing not only yourself but also the rest of the lab.

There is a Monash template for talks that you are required to use that you can find in our shared folder.

Recommendation letters

Letters of recommendation are one of the many benefits of working in a research lab. **I will write a letter for any student or lab member who has spent at least one semester in the lab.** I maintain this policy because I do not think that I can adequately evaluate someone who has been around for less time.

To request a letter of recommendation, please send me your current CV and any relevant instructions for the contents of the letter. If you are applying for a grant, send me your specific aims or a short summary of the grant. In some but not all cases, I may ask you to draft a letter, which I will then revise to be consistent with my evaluation. This will ensure that I do not miss any details about your work that you think are relevant to the position you're applying for, and it will also help me complete the letter in a timely fashion.

Society membership

If you joined the lab as a student or post-doc I expect you to apply to become a member of the High Blood Pressure Research Council of Australia (HBPRCA), the International Society of Hypertension (ISH, both free for 3 years) and potentially the International Society for Heart Research (ISHR). Please ask me how to and I will also give you recommendation letters. These are also some of the main conferences we go to.

Journals

The following journals are the top cardiovascular and research journals and I encourage you to sign up for the electronic table of contents (found on the journal website). I really like it when you email me or post on Slack (versus the other way around) that you just saw a cool article that was published this week. The top cardiovascular journals are: *Circulation*, *Circulation Research*, *Hypertension*, *Cardiovascular Research*, *European Heart Journal*, *JACC*, *Nature Reviews Cardiology* and *Nephrology*. Other great journals are: *Science*, *Nature*, *Nature Medicine*, *Cell*, *PNAS*, and *JCI*. Let me know if there are any others that are your favourites.

Funding

Funding for the lab comes from: my start up package at the School, the National Heart Foundation (fellowship and Vanguard grants), the Sylvia and Charles Viertel Charitable Foundation, the National Health and Medical Research Council, and the Australian Research Council. This means that work in the lab is supported by the taxpaying public and donations.

Allocation of expenses

I will oversee all aspects of the financial management of our funding sources. However, it is important to me to be transparent about where research money comes from and how it's spent. I have included some notes below but please do not hesitate to ask if you want to know more details.

Start-up: I do not think I'm technically allowed to disclose the terms of my job offer. However, we have money and it's enough to keep us going for a while. Start-up funds are flexible in that they can be used for any justifiable purpose.

All research funded by the Heart Foundation, Viertel Foundation, the NHMRC and the ARC *must* acknowledge the grant number upon publication. This is essential for documenting that we are turning their money into research findings. We must also submit a yearly progress report describing what we have accomplished. Lab members involved in the research will be asked to contribute to the progress report.

Appendix – Team values and behaviours

The following values drive us as a team. We are all accountable for behaving accordingly.

Research values

1. Integrity

Examples of behaviour that support this value include:

- I work in an ethical way with research participants as well as animals and data, and follow appropriate training and reporting.
- I document my raw data and raw code and make it available others in the lab.
- I do not falsify my data.
- I own my mistakes and discuss them in an open and honest way.
- I don't waste research money (e.g., I ensure that I have training, I plan experiments well, I analyse data as I go to make sure experiments worked, I save my data and files).
- I trust my team mates, and I am trustable.
- I give credit where credit is due.
- I treat all my team mates equally, and I give everybody the same opportunities to participate.
- I treat all my team mates with kindness, respect and compassion by responding when appropriate in a timely and professional manner.

2. Team work

Examples of behaviour that support this value include:

- I am willing to share knowledge, skills, protocols, time and expertise.
- I am willing to help/offer help according to my time and capacity.
- I am receptive to constructive criticism and feedback.
- I am willing to act as a sounding board to others.
- I communicate my expectations clearly.
- I understand other people's limitations and that nobody is perfect.
- I acknowledge people's contributions and discuss authorship upfront.

3. Innovation

Examples of behaviour that support this value include:

- I keep up to date with the literature.

- I share my ideas with others.
- I encourage people to think outside the box.
- I look for collaborators to develop new skills.
- I am willing to get out of my comfort zone.
- I embrace new technology, skills and protocols.
- I am receptive to new ideas and change.
- I am willing to try new things and persevere and learn.

Team's culture values

1. Balance

Examples of behaviour that support this value include:

- I inform others of my boundaries and respect other people's boundaries.
- I try to spend time together as a team.
- I celebrate outcomes together.
- I balance my work with other people's work.
- I work flexibly and won't abuse the flexibility I am allowed.
- I take time off when I need and on a regular basis.
- I allow myself to rest.

2. Respect

Examples of behaviour that support this value include:

- I respect communal things (e.g., space, reagents, equipment).
- I respect other people's time.
- I am responsible for my actions.
- I allow others to talk and I don't talk over them.
- I respect other people's suggestions even if different from mine.
- I treat others with kindness, decency and compassion.
- I do not discriminate.
- I respect my own and other people's boundaries.

What types of behaviours we don't tolerate in our lab culture:

- Competition between team members;
- Personal attacks when giving feedback;

- Engagement in favouritism;
- Bullying, exclusion, gossiping;
- Unrealistic expectations or requests for people's time (unless absolutely necessary and in agreement between all parties involved);
- Selfishness and lack of team mentality;
- Lack of awareness about my own and other's mental health;
- Lack of respect for people's time (e.g., not showing up on time);
- Lack of acknowledgement for contribution to the work;
- Unethical behaviours;
- Hiding mistakes;
- Misusing data and dishonesty;
- Selfishness and lack of team mentality
- Not following safety procedures;
- Lack of awareness/respect for other lab workspaces around us;
- Not paying attention when others are presenting or teaching me something.