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Taking a break from the lab: Can it really be done?

Jane A. Skok

Department of Pathology, New York University School of Medicine, New York, NY 10016, USA

Scientists are by nature a determined, dedicated breed and do not give up easily even when confronted with seemingly insurmountable obstacles. So why would anyone who has embarked along this career path choose to take a break from it, and can one really return to a successful academic career after this break?

The decision to leave

There are numerous reasons for taking a break. The most common is family-related but, increasingly today, many postdocs and students facing the difficulties of obtaining funding or an independent position may wish to try an alternative career, such as working for a biotech company, becoming an editor, or something completely unrelated to science. I met someone recently who took a few years off to run a farm. Personally, I made the decision to leave the lab at the end of my PhD because my six-month old daughter was seriously ill and I knew her condition would not be resolved quickly.

For me, there was no choice and the decision to leave was simple; however, others can find themselves in more of an ambiguous situation making the decision difficult. Put simply, choosing to leave the lab can be terrifying. Different scenarios could haunt you: will I lose my identity and status in the world?; will I become a dependent or possibly a stay at home parent (this was not part of the plan)?; what if my new, alternative career is uninspiring (after all the effort invested as a scientist)?; or worst of all, if I leave will I ever be able to return? Despite the fears, if you feel strongly enough that you need to take a break, then perhaps that is what you should do. Staying in the lab and feeling unhappy, for whatever reason, will not lead to a productive scientific career.

Returning to the lab

When thinking about a career break, it is important to realize that this is not an irreversible action – you can go back. Remember, as a scientist you are a determined, highly educated and dedicated person who is not easily deterred by challenges (you might have forgotten this after spending some time out of the lab!). Returning to science is not easy, but it is possible. From my own experience and those of others, there are a number of steps one can take to return, which I outline below. The route you take will depend on what stage in your career you left, what you did after leaving the lab, and what length of time you left for. For example, it will clearly be harder for a stay at home parent to return to science than for

someone who jumped tracks but remained in a research related field, such as working as a scientific editor or joining the workforce of a biotech company.

Keeping in touch

Irrespective of the point in your career when you left the lab, re-entering will require you to understand the current developments in your discipline. Therefore, if you have thoughts of returning, try to stay abreast with the scientific literature, think of areas you would like to research, and whose lab you would like to join upon your return. Once you decide your scientific direction, it will be important to get the support of a principal investigator (PI). This support can come in many forms: sponsoring you for a career re-entry grant application, providing you lab space, or hiring you as a postdoctoral researcher. However, finding the right person to support you may be challenging, particularly if you left academia for a long period of time. If possible, try not to lose contact with people in the field while on your break as these contacts can be great sources of support and advice when trying to re-enter academia. For example, many of your former colleagues still in academia likely know which labs are well funded, who is hiring, or which projects may fit your interests. However, if this is not possible, try cold calling PIs of labs you are interested in joining and persuade them that you are a worthwhile investment. For example, if you are coming from industry, a good selling point might be that you have been working with new technologies that can be applied to their research.

Once you have found a PI to help, it will be advantageous to come armed with information about the various sources of career re-entry funding that you or the PI can apply for. There are a number of career re-entry funding opportunities provided by grant awarding bodies, such as the NIH in the US or the Wellcome Trust in the UK, as well as individual universities and research institutes. With little effort, a PI with NIH support can apply for career re-entry funding for a postdoc as a supplement on an existing grant, which is often an easy entry point to most US based labs. In other countries, such as the UK, you can apply for your own career re-entry fellowship with the sponsorship of a PI. Although more effort is involved in obtaining this type of personal fellowship, in the end it will help transition you to independence as you will have had the experience of applying for a grant. More information can be found at <https://grants.nih.gov/grants/guide/pa-files/PA-99-106.html> for the NIH and at <http://www.wellcome.ac.uk/Funding/Biomedical-science/Funding-schemes/Fellowships/Basic-biomedical-fellowships/WT004380.htm> for the UK.

These independent re-entry fellowships offer additional support systems that can be helpful for your future career. For instance, the Wellcome Trust in the UK hosts an annual 'career re-entry meeting' attended by former and current fellows. This meeting provides a useful forum for discussion of issues confronting current career re-entry fellows and a venue for former fellows to pass on their experiences and give advice.

Worst case scenario

If you turn out to be someone like myself, who left the lab for an extended period without thinking much about their future as a research scientist, then you may not have taken any steps to ease your way back to the lab. I left science for ten years and did not read a single

paper while I was gone. Looking back, this was a big mistake. This scenario will likely place you with a similar disadvantage as the field will have advanced significantly and new experimental approaches will have replaced those that are familiar to you. In this case, it can take a major effort to return, but don't be dissuaded – remember, you have the necessary drive and determination.

So what should you do? For me, it was not feasible to return directly to the lab after so many years away - who would contemplate hiring someone that didn't know what a PCR machine was? Therefore, it became necessary to look for other ways to re-enter. If these are the circumstances you find yourself in, there is really no alternative but to re-educate yourself so that you can become acquainted with the latest developments and technologies in your field. An important option to consider is returning to graduate school and obtaining a Master's degree, which is the path I chose. While it may seem like a backwards move after obtaining a PhD, it can be an opportunity to broaden your knowledge in a related subject that could help you with your future research especially because many areas of biomedical science are interrelated. For example, if you majored in microbiology as an undergraduate, you might consider pursuing a Masters in immunology. Alternatively, if you are interested in research that involves genome wide data sets but have no analytical skills, you may consider a course that includes bioinformatics. Regardless of the subject you choose, graduate school can provide a solid foundation for you to return to the lab. It will be easier to make new contacts under the umbrella of a research project associated with graduate work, and these new contacts can then help you secure a research position. In some cases, this path may be all that is necessary for stepping into a postdoc position and working towards your own academic lab. However, you can also apply for a career re-entry fellowship to fund your postdoctoral work. Such an award will demonstrate that you have the ability to obtain your own funding and this will certainly be beneficial in the future for launching your independent career.

Back at work

At last, you made it back to the lab! However, you may not feel as comfortable as you once did. Personally, for a long time life was not smooth sailing and one of the biggest hurdles I faced going back to work was a lack of confidence. I was constantly aware of my shortcomings compared to colleagues at my level, but I made up for my lack of knowledge with an increased determination to succeed. It is not until you lose something that you truly appreciate its real value – and I was aware that getting back on track and being successful was definitely worth fighting for. I do not regret taking time off to care for my children while they were growing up and regardless of the reason, neither should you. Irrespective of how you occupied yourself during your time away, you will undoubtedly come back with a new perspective and maturity that will benefit many aspects of your future work. For me, having the experience of dealing with four demanding children at home has better equipped me for dealing with students and postdocs in the lab.