

MENTORING QUESTIONS FOR DISCUSSION

Situation 1.

Investigator speaks with a postdoc in the lab: "I am leaving for a Gordon Conference tomorrow, and a new postdoctoral fellow will be coming to the lab on Monday. Could you help him get settled and have him get started with the assay that will be used to purify X factor?"

Questions

1. What should a mentor do to ensure a smooth transition for a new fellow?

Talking points:

- Arrange to provide orientation themselves or by an experienced designee.
- The mentor should make sure that things are ready to go for the new postdoc (space, computer, basic supplies) and make sure that there will be someone available to help with orientation if the mentor is not able to do so himself.
- Key responsibilities include: 1) fully informing the fellow about all lab policies and procedures; 2) introducing the fellow to all lab members; 3) discussing what the scientific expectations are regarding the performance of the project(s) and the different mechanisms by which performance will be measured; 4) providing information regarding the policy of the mentor with respect to access for formal/informal discussions, an understanding of the “chain of command” in the lab, lab policy regarding preparation and submission of manuscripts/abstracts and national/local meeting attendance, and expectations regarding attendance at lab meetings, seminars, etc.

2. How should a new fellow’s lab project be decided?

Talking points:

- In consultation with the fellow, taking into account both the fellow’s skills and interests and the needs of the lab. This should be done as early as possible, preferably during the hiring process.
- Potential projects should be discussed at the time the position is offered to the postdoc and then again right before and/or upon arrival to the lab.
- The mentor has the final decision following extensive discussions with the fellow.
- Once on site, the project should be laid out in considerable detail... But NOT WHAT IS TO BE DONE. Give them some initial maneuvering room to track out their own ideas; ask them to come back with their ideas. Then refine the approach if it’s needed.

3. What should the mentor communicate to other members of the lab?

Talking Points:

- Enough information about the new fellow and his/her project to have everyone comfortable in interacting with the new arrival.
- All members of the lab should know how their projects or tasks integrate with the rest of the members of the lab. The mentor should tell any new member of the lab how the lab operates in terms of sharing equipment, reagents, protocols and access to notebooks.

Situation 2.

A postdoctoral fellow who has just joined the group is trying to finish a paper from her graduate work. The reviews of one of the papers require a few more experiments that she would like to finish while at NIH. The project is totally unrelated to the project that she and her mentor have agreed on for her postdoctoral fellowship.

Questions

1. Does the postdoctoral fellow need to ask her mentor's permission to continue work on this project, even if she thinks that her work at NIH will not suffer because of it?

Talking Points

- Yes, but if possible this should have been discussed during the hiring process. If the new fellow didn't mention his or her interest in finishing a project (or manuscript), this should have been asked by the mentor.
- This is potentially more complicated than simply needing permission. There may be issues around intellectual property, use of animals or human subjects depending on the projects. The postdoc must speak to her mentor about this to make sure that all administrative approvals are in place.
- Yes, if she is using lab resources, she needs to make it clear to the mentor how much time, effort and resources will be needed to complete the paper.
- Yes, if it is laboratory work as opposed to offsite non-lab work such as reading archival slides, library work or computing done at home.
- Absolutely, there is no situation where this permission need not be obtained.

2. What if the fellow needs to write a manuscript from her previous work?

Talking Points

- “Remaining papers” need to be done on his/her own time.
- If the fellow is writing the manuscript on her own time, there is no reason that she could not work on the manuscript. That is what nights, weekends and vacations are for.

3. Does the mentor have a right to say "no"?

Talking Points

- Yes.
- A mentor would be within their rights to object, but hopefully a compromise could be reached since it is in the best interests of the fellow to publish.

Situation 3.

During a lunch discussion, fellows 1 and 2 learn that the mentor they have in common critiqued and approved for submission the paper of one of the fellows, while that of the other fellow has received no comments even though he gave a draft to the mentor over a month ago. Fellow 3 resents the conversation altogether; his project is going nowhere because of a technical problem, and the mentor has said that he does not know the technique and cannot help.

Questions

1. How does the mentor ensure that he or she is being effectively responsive to each fellow?

Talking Points

- The mentor should try to be as fair as possible to all of the fellows. This does not mean that manuscripts are reviewed in the order in which they were received, but there should be legitimate reasons why they are not if that is the case. Every effort should also be made to respond to the fellows' requests in a timely fashion. After all, the more productive the postdocs are and the more publications they have, the better it is for the mentor. As for the third fellow, the mentor should be working with the fellow to identify a co-mentor who has expertise in the technique that the postdoc is struggling with. If training courses are available, the mentor should be supportive of the postdoc taking such courses. If the courses cost money, the mentor should be working with the postdoc to identify possible sources for that support.
- A mentor cannot play favorites. The mentor accepted them into the laboratory community, which rises and falls as a group effort.
- The mentor should try to establish a deadline, in agreement with fellows, for the prompt return of manuscripts.
- The mentor needs to be available to all fellows equally but it may not be necessary that all fellows require the same amount of time/input with the mentor.

2. What if one project or paper is more important to the mentor (and his or her perceived success) than another project?

Talking Points

- If priorities or other reasons call for differential attention during a particular period, this should be explained to the fellows in advance so that they understand what is going on.
- To choose to help only the best project is to widen the gap between successful approaches and unsuccessful ones.

- There are many legitimate reasons why a mentor might give feedback on manuscripts out of chronologic order; one may be that there may be a sense of urgency for a paper due to something else recently published; there may be a special issue into which the second manuscript is being submitted; one may be a “hotter” area than the other and more likely to be scooped if they do not act as quickly as possible. The postdocs can also take the initiative to try to set up a time when they can meet one-on-one with the mentor to go over the manuscript. They can let the mentor choose the date and then negotiate if they think they need to meet sooner.

3. What might a mentor do when he or she and the fellow have different expectations as to what constitutes a complete study?

Talking Points

- Expectations about a project should have been discussed and agreed upon at the start, then periodically assessed as benchmarks are reached.
- The mentor must have the final say as to what makes a project ready for publication and this should be considered part of the “mentoring” process.
- This can be settled by having some scientific colleagues review the work, first as a seminar. This happens all the time: the graduate student and the preceptor rarely agree on when the dissertation research is at a logical stopping point. Typically it takes the collective wisdom of the student’s committee to adjudicate that point.

4. What might a mentor do when the project of one postdoctoral fellow has gone nowhere, while the projects of other postdoctoral fellows in the lab are progressing very well?

Talking Points

- One of the most valuable skills that a mentor can teach their postdocs is the art of collaboration.
- There are always different rates of success. However, no postdoc should be allowed to stay on a project that has gone “nowhere.”

5. How might a mentor jumpstart a postdoctoral fellow’s research?

Talking Points

- It is the mentor’s responsibility to monitor a fellow’s progress, and intervene if lack of progress is jeopardizing the fellow’s scientific or educational goals.

- A valuable skill that a mentor can teach a postdoc or student is when to let go of a project or at least move it to a back burner.
- The mentor needs to work with the fellow and meet on a very regular basis (e.g. weekly) to determine why the project is not progressing.
- The mentor has the absolute obligation to provide the new postdoc with every advantage, every substance, every technique and every opportunity to do the absolute best science
- If the lack of progress is due to something beyond the fellow's control, then it is essential that the mentor and fellow together come up with an alternative project and/or technique to help the fellow get back on track.

6. What should a mentor do when he or she has no experience carrying out a technique required for a fellow's project?

Talking Points

- The mentor has a responsibility to see that the fellow can get the necessary help from elsewhere.
- The major role of the mentor is to train the mentee. If the mentor is not skilled in an area, he should be working with the trainee to identify a source for that knowledge.
- This matter should have been addressed in early discussions BEFORE an agreement to join the lab was made. The mentor should have a plan in place for gaining that expertise, and must have the equipment and science infrastructure needed either in his own lab, or available, to initiate the actual science training within 3 months.
- One source of information about other laboratories at the NIH using various techniques is the NIH Intramural Database <<http://intramural.nih.gov/search/>>, which allows searches of Annual Reports for specific terms.

Situation 4.

A fellow is on one month's leave for a much-needed vacation and visa renewal when the reviews of her first-author paper arrive. The reviews are very positive, but some additional experiments are needed to address the referees' comments. The mentor is excited, especially since she is aware that another group has similar results accepted in a second well-respected journal.

Questions

1. How might the mentor proceed in this situation? What might they do?

Talking Points

- Ask a second fellow to do the experiments and possibly become co-first author.
- There is an absolute duty of co-authors to contact each other regarding a manuscript. The vacationing author should be contacted at once. Ideally, the mentor and fellow discussed beforehand what to do if the review arrived while the fellow was away.
- As the first author of the paper, the postdoc should be consulted. A decision about how to handle the situation should be reached together.
- The fellow should definitely be consulted about this and become involved in the decision-making process. The fellow has the right to refuse to permit the inclusion of another fellow as co-first author.

2. How should a mentor handle extended leave? What if the extended leave is for one month? Six months (including for example maternity/paternity leave)?

Talking Points

- Before leaving, the fellow and mentor should anticipate what issues might come up and how they should be handled, e.g., whether another fellow should step in to continue an important project, and what scientific credit they should receive.
- Obviously the mentor would have to agree to the period of extended leave and it is probably best to deal with each situation on its own merit, with respect to the individuals involved and the circumstances. There is no 'one size fits all' answer to this question.

Situation 5.

A fellow has been working in a mentor's lab for a year. He has great lab skills and initially made a lot of progress on his research project. However, his current research is not proceeding at a pace that his mentor would like and he is spending increasing amounts of time on things not directly related to his research. He is active in the fellows' organization on campus, and attends a large number of seminars and workshops.

Questions

1. How might a mentor address this situation?

Talking Points

- Distractions should be noted early if the mentor is monitoring the fellow's progress. The mentor should objectively discuss the problems noted, using specific examples.
- The mentor should find out what the fellow's short-term and long-term career goals are and advise him accordingly.
- Discuss and define specific limits in terms of time away from the lab.
- Please refer to 'Difficult Conversations' section of the Conflict module.

2. What are a mentor's responsibilities with regard to fostering career development in non-research areas?

Talking Points

- Mentorship includes the broad issue of career development, not just research. This includes teaching and training, how to set up and run a lab, interpersonal relationships, etc.
- Non-scientific activities should be encouraged since serving on committees and review boards is part of being a PI. However, the mentor might advise the fellow to be selective about which activities he chooses to get involved in. If the non-scientific activities seem to be taking over the work, the best thing the mentor can do is either help redirect the fellow toward research if that is the fellow's goal, or advise him or her to move into a position that will provide career development that is more in line with the fellow's goals.
- Training successful scientists means teaching them to use people appropriately to get the job done and to maintain a team environment.

3. How might a mentor determine how much independence to allow a fellow?

Talking Points

- Independence will usually vary by the stage of the fellow's development. Two ways to measure where the fellow's development is: Their competence (skills, knowledge & experience) and their commitment (self-confidence, motivation & enthusiasm)
- A new fellow will generally work on an assigned project, while an experienced fellow may be given independence to pursue their own project.
- The mentor and fellow must develop a relationship based upon trust, openness, respect and honesty.

4. What if the fellow is getting scientific advice from another laboratory that the mentor does not agree with? Can a mentor ask a fellow to refrain from interacting with another group?

Talking Points

- The mentor should use this as a teaching opportunity to objectively discuss the scientific differences.
- Yes, if such interaction is detracting from the fellow's scientific or educational goals or the work of the lab. This would be rare.
- The mentor can always ask the fellow to refrain from the interaction, but there is nothing the mentor can do to prevent such an interaction (though it would most certainly make for a very uncomfortable situation if the fellow acts against his mentor's request). The mentor should present a case for why he feels the interaction may be harmful. If it is simply that he disagrees with the other lab's perspective, then the fellow could argue that listening to a counter-perspective could help them produce better papers since reviewers may have the same perspective as the other lab.
- A fellow cannot work for 2 bosses, especially if the bosses disagree. The mentor has the responsibility of making this clear to both the fellow and the other lab head. In a worse case scenario, if the fellow is consistently consulting with and following directions from the head of another lab, a transfer might need to be considered.
- Science is collaborative by nature, and working with several PIs is encouraged in certain fields. However, the fellow should discuss with his/her PI if considering collaborating with another PI.

Situation 6.

A fellow's research is proceeding at only a modest pace, and the mentor perceives a lack of enthusiasm and dedication to the project. During the annual progress review, the issue of career planning comes up, and the fellow mentions that he has seen a job announcement for a grant management position in the extramural division.

Questions

1. How might the mentor advise the fellow in this situation?

- It is unrealistic to expect all fellows to pursue research positions and therefore the mentor has a duty to encourage and guide fellows not interested in research positions to explore alternative careers.
- The mentor should help the fellow identify people who might be in a better position to serve as an advisor.
- The mentor needs to be discussing career tracks with the fellow on a regular basis. Failure to do so is a lack of mentoring. It may well be that the fellow is not one who can run his/her own lab and the mentor should actively encourage the fellow to pursue alternate career tracks if they believe that this is the case.

2. What if a fellow is applying for a position for which the mentor does not think the fellow is qualified?

Talking Points

- The mentor has a responsibility to discuss with the fellow why they believe the fellow isn't qualified, using objective examples.
- The mentor can gently mention her reservations. Sometimes people get hired for positions other than those for which they apply, so the mentor should not discourage the fellow, but prepare them for the reality that they may not qualify for the position they are targeting.
- Help them be as introspective as possible. One good technique is to review the activities their proposed new job will require. For instance, suppose a postdoc is applying to be a manager of a DNA sequencing core laboratory, but has never done the process alone –only by using the current institute's core lab. In the end, one cannot prevent them from applying. But the mentor should point out to them that they need to pick references carefully, to be sure that their referees could give positive assessments.

3. Is it appropriate for mentors to ask their trainees to write their own letters of recommendation?

Talking Points

- Yes, but only if it understood to be a first draft, which the mentor will edit as needed and will not necessarily show the fellow the final version. This approach is useful in helping trainees do a realistic self-assessment and in allowing them to point out accomplishments they think the mentor may not be aware of.
- Often a mentor will share the final version of the letter with his or her mentee, especially if it is a very good recommendation. This helps to build self-confidence and trust.

Situation 7.

Postdoc 2 asks Postdoc 1 (who is about to leave for a faculty position elsewhere) to show her how to carry out some assays he developed, but Postdoc 1 questions why and concludes that Postdoc 2 is most likely planning to carry out the same experiments as proposed in his grant.

Questions

- 1. What are the responsibilities of a mentor regarding projects fellows take with them to new positions?**

Talking Points

- The mentor must balance the need for departing fellows to make a good start in their new position vs. the need for relevant projects for remaining fellows and keeping the lab research program progressing.
- The mentor needs to state clearly what is to be done when the person leaves. The departing person should have the opportunity to pick an aspect of the science that they can do without being in competition. That way the two groups can coordinate their research, avoid overlaps, and even potentially collaborate.
- Ideally the mentor would have helped the fellow prepare the grant and therefore any potential problems would have become apparent then. Clearly the mentor and fellow have to reach an agreement regarding future work on a particular project and it is in the best interests of both for this to be discussed sooner rather than later.
- The ability of fellows to take projects with them will depend upon the importance of the project to the mentor's long term goals/priorities. If the mentor has a policy that projects never leave their lab, this should be stated during the interview process.

- 2. What are the responsibilities of a mentor with respect to keeping certain techniques/assays/expertise in the lab?**

Talking Points

- The mentor should accomplish this by appropriate hiring and training, not by keeping fellows past the time that they have achieved their scientific and educational goals.
- The mentor has the right to keep certain assays available in the lab and it is appropriate to ask one fellow to teach another fellow a specific technique/technology.
- The best solution is for the mentor to use a technician or staff scientist to keep techniques, assays and expertise in the laboratory.

Situation 8.

Dr. Small has been a Tenure Track Investigator for 3 years and is coming up for mid-term review. He has two projects in his laboratory, one high-risk high-impact and one that is sure to result in publications. He wants to position himself for maximum success in gaining tenure. His Lab Chief is very insistent that tenure will only be granted for publications in the most outstanding journals. His high-risk project fits this description, but it has taken longer to develop the expertise and may not come to fruition in the necessary time period. He is very unsure of how to proceed and how to invest his resources, and is considering going to a Senior Investigator in another Institute whom he has known for a long time.

Questions

1. To whom should Dr. Small turn for advice? Should he go outside the laboratory? outside the Institute? Should he talk to his S.D. about his concerns? What responsibilities, if any, does the Lab Chief have to aid Dr. Small and provide intellectual, reagent or headcount help?

Talking points:

- He should speak with his second mentor.
- He should actively seek informal advice from multiple sources inside and outside of his Laboratory and Institute, including past and even present members of the Institute and NIH tenure committees. He needs to factor in the fact that he will need the support of both his Lab Chief and Scientific Director since it is the two of them who will present his case to the NIH Central Tenure Committee. Since both of them should be watching his progress anyway, asking for general advice from his S.D. seems logical.
- He should try in the following order: Lab chief, his second mentor, the IC's Director of Education/Fellowship Training, anyone else whom he thinks could be helpful, and then tell his LC what he has decided after discussing what he has learned.
- He should turn to his second mentor, his S.D. and 1 or 2 leaders in the field to get their advice. This decision could make a big difference in his career and should be weighed carefully, but in the end it is his decision.

2. A leader in Dr. Small's field has contacted him about potential collaborations on his high-risk project. This person has certain expertise that would speed the project along. What are the advantages/disadvantages to such a collaboration?

Talking points:

Advantages: Project could be accomplished more quickly. Collaboration with a leader in the field would increase the likelihood that any publication from the project would be in an "outstanding

journal.” Collaboration with other institutes both within the NIH and outside the NIH is encouraged. Higher probability of success. Possibility for opening of new research area.

Disadvantages: Depending on the situation, the collaboration may lead some to assign him less credit for the project or perhaps even to question his independence. Unless the intellectual role of the outside senior leader is defined and circumscribed, the independence of the TTI role may be diminished. Therefore requires clear definition up-front of individual responsibilities/credits/PI role for the TTI/etc. Pre-nup may be appropriate.

- A tenure recommendation letter from the senior collaborator defining his role and indicating a secondary contribution might reduce but not eliminate the problem.
- If there is an agreement to collaborate, first and last authorship on forthcoming papers must be clearly defined at the start of the collaboration.

3. The Lab Chief insists on being a collaborator in the project. Dr. Small feels that it is not appropriate but feels uncomfortable in confronting her. What is the best course of action? Does Dr. Small run any greater risk of being seen as not completely independent if he collaborates with his Lab Chief as opposed to getting into a similar arrangement with a scientist elsewhere?

Talking points:

- He is in a very difficult position and needs confidential advice from his second mentor, other colleagues, and perhaps the NIH Ombudsman. For example, colleagues might help gauge whether his S.D. or some other senior colleague could point out to the Lab Chief that such a collaboration could damage his perceived independence and chances for tenure.
- If he is exploring a new area, one in which his lab chief has limited knowledge, he should tell her no. (If he has problems with saying no, then he could come to the PI course and learn how through the discussion on Difficult Conversations, or talk to the NIH Ombudsman.) However, if she is a leader in the field and can contribute to the project design or analysis, then sage advice *may* influence him to adding her as a collaborator.
- It is inappropriate for the Lab Chief to make that request unless some other strong circumstance (a real contribution, intellectual, etc.) warrants; even so, including the Lab Chief will harm the perception of TTI independence, so it is best to avoid. Resolve with SD, and if not successful, consider NIH Ombudsman or members of the NIH Ethics Committee.
- This is an extremely difficult situation since if the Lab Chief is on the paper, Dr. Small may not get credit for independent work.. Dr. Small must confront the Lab Chief on this issue because it is his career that is at stake, and must make it clear that in order to achieve tenure he feels that he must establish an independent reputation. However, he must show

that he is willing to listen to the LC's rationale for co-authorship, since being stubborn and unwilling to listen to another opinion may in fact jeopardize his long term relationship with the LC. A possible compromise might be to make the LC a middle author.

4. The institute has asked its intramural program to take a 15% budget cut. The Lab Chief feels everyone must take the cut equally but Dr. Small knows that such a cut will cause him to delay filling a postdoctoral position for 6 months and thus his productivity will be significantly impeded. How should Dr. Small proceed? To whom can he protest this decision?

Talking points:

- The proposed reduction in budget would actually represent a change in resources from those promised to the TTI by the SD in the original TT contract signed by the TTI, LC, and SD. Because of this contractual agreement and because the effects would be so major, Dr. Small should tell his LC that he will have to appeal to the SD for an exemption concerning his share of resources provided to the Laboratory. He should point out to the SD that such a reduction would be a change in the contract and a serious problem that will decrease his chances for tenure, and therefore ask that his part of the budget be spared.
- The above approach may not win many points with the SD or the LC whose support the TTI needs, as described in the earlier talking points. One suggestion is a compromise for a decrease that would not devastate the program. The TTI could also appeal to the SD for some type of compensating resource such as the funds for the post-doc come from another source.