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A Getting-Started Guide for Newcomers to Science Writing

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Maybe you're a scientist who's making the leap into journalism. Maybe you're a general-assignment reporter, or an education reporter, or a city hall reporter, and you've been assigned your first science story. Or maybe you're a journalism student who wants to try covering science or medicine or the environment. But whoever you are, if you're brand new to science journalism, this tip sheet is for you.

1. **Explore the elements of science and story.** If you appreciate a good story and are curious about the world around you, you've already got a solid foundation. A stellar science writer starts with curiosity about science and an interest in the craft of journalism. And while feelings of impostor syndrome may crop up, try to push them aside. As long as you maintain a sense of curiosity and a dedication to reporting on science accurately, you're a science journalist. While a science degree or a master's in science journalism can help you develop your skills and move forward in your career more quickly, many great science writers don't possess either of those credentials. They're after a great story, and that's a perfect place to start.

2. **Think about what you've got in your toolbox so far.** If you're a scientist, you already have the technical knowledge and scientific vocabulary needed to understand a study. If you're a journalist, you've likely honed your ability to talk with sources and developed research skills that can help with writing any story. If science writing is your first career, congratulations! You get to start fresh.

3. **Immerse yourself in the science.** Sign up for press releases from services such as EurekAlert!, ScienceDirect, and Newswise. This will keep a steady stream of story ideas—or at least the kernels that may grow into stories—flowing into your inbox. (But remember that press releases are your starting point—a cue to read a study—and shouldn't be your sole source.) Consider attending some scientific conferences or following them via Twitter. Set up Google Alerts for keywords related to topics you're tracking, and follow interesting scientists and grad students on Twitter. Regularly read several major science publications aimed at the public so you can watch which stories they cover and which ones they skip. Look for trends, such as several stories about a certain type of disease or studies on a similar subject. When you come across topics you're interested in, consider what possible angles you could approach them from to turn them into fully developed stories.

4. **Do your homework.** If you don't understand a technical study the first time you read it, that's okay. In many cases, neither do most people who aren't experts in that specific field. Read the study again (and maybe again!), and then roll up your sleeves to really dig in. Search technical terms and make a list of people to call. Email one or more of the study authors to request an interview. But don't stop there—also line up conversations with scientists who have relevant expertise and who weren't involved in the study to get their independent assessment of the research and its implications. And whenever you can, talk to your sources in person or on the phone. Their answers will be less scripted and will allow all-important follow-ups in the moment.

5. **Don't be afraid to ask questions that feel silly.** If you don't understand something, it's likely the general public won't either. Getting scientists to explain their work in lay-friendly terms is the key here. Let your curiosity guide the conversation, and speak up if you're confused about something. By showing interest in the ins and outs of a scientist's research, you can guide the conversation in a more natural direction and get more information about how the research came to be. Following your nose can also yield excellent, candid quotes. When you can accurately paraphrase what your scientist sources are saying, that means you've got it and you're ready to write.

6. **Maintain skepticism.** Approach press releases, corporate white papers, and other communications that merge science and marketing with caution. Read the entire scientific paper you're writing about, never just the associated news release. Be aware of any conflicts of interest that should give readers pause. Apply critical thinking to statistical claims, as well as how a study was designed and analyzed. How many participants were part of the research, and was it a representative sample? Are researchers truly pinpointing a causal relationship between two phenomena, or are they merely showing a correlation? Did the researchers choose meaningful endpoints to examine, and did they stick to those or did they change course along the way? When in doubt, track down a statistician or other outside expert for help.

7. **Interview people whose lived experiences can breathe life into your stories.** Health, environmental, and science reporting often tackles subjects that have huge social ramifications. To tell accurate and well-rounded stories, don't rely solely on scientific experts—also look to people who are affected by the issue you're covering. For a medical story, that might mean patients and their families, or home health nurses, or health advocates and activists. For an environmental justice story, it might mean interviewing residents of the communities most affected, or business owners, or activists. Just remain aware of agendas people speaking to you might have. Including these sources' experiences can lead to a more complete story, even if they aren't experts in the actual science. You can find "real people" sources by asking researchers, doctors, municipal or tribal leaders, or professional associations—as well as people in your own social network—for

recommendations. As with all sources, always be aware of their potential conflicts of interest, and make sure to fact-check everything you learn.

8. **Write simply and clearly.** Be attuned to your readers. They're reading for pleasure, or to learn something. That means your sentences should be succinct and free of jargon. Your stories should use metaphors and analogies to explain complex terms and concepts, and they should have a logical, easy-to-follow flow. A good way to establish this flow is by asking yourself the natural questions readers are likely to think of as they read. (One trick: Write these questions out and use them as provisional subheadings in your story, removing or replacing them when you're self-editing. Make sure to build in transitions that help guide readers from one idea to another.)

9. **Identify learning opportunities.** Want to deepen your investment in science writing? Developing expertise in the field is hard for everyone, and there are many "right" ways to learn—an approach that might work for one person may not work for another. Some aspiring science writers pursue master's degrees, usually a one-year time investment. Others learn the craft through science-writing internships. (Of course, these two paths are not mutually exclusive!) Still others pick up science-writing skills while also covering other beats. And some dive right into freelancing, pitching short news stories while building both skills and editorial relationships.

10. **Find your community.** Join organizations dedicated to science writing, such as the National Association of Science Writers, the Association of Health Care Journalists, or the Society of Environmental Journalists. These communities can be a pathway to finding mentorship, making connections that might serve you in the future, and learning more about the craft of writing. If you can, attend these organizations' annual meetings and virtual events, follow some of their members on social media, and take part in community conversations. Ask veteran science journalists for advice, and ask whether they know of any public or private online communities that you should join. You might be surprised at who is willing to have a coffee or phone call with you, and at how much you can learn from a pro. Finally, become part of the *TON* community of science writers! Sign up for our weekly newsletter and follow us @Open_Notebook on Twitter. Follow our contributors, editors, and other members of the TON community through our Friends of *TON* Twitter list. And let us know how *TON* can help you with your science-writing goals.