

Getting Connected to the Internet, Part I

Paul Cronshaw, DC; Steven A. Machado, DC

Editor's note: The second part of this article will be in the 7-17 issue.

If you aren't yet on the Internet or only have electronic mail (e-mail) access, our recommendation is to get fully connected to the Net as soon as possible. Having Internet access is crucial to chiropractors in the emerging global marketplace.

What is the Internet?

The Internet is a worldwide network of computer networks connecting thousands of computers and more than 23 million users. Users exchange e-mail, retrieve free software programs, and access millions of databases of information every day. Thousands of businesses have already discovered the profit-boosting potential of this growing information superhighway. No matter what business or profession you're in, you need to get connected to the Internet right now. There's no better way to become part of a global communications network and gain instant access to research data and valuable information, for free. Those who don't grasp the importance of being a part of the Internet are going to be left behind. This special report will help you get started. It's your on-ramp to the information superhighway. It is time for chiropractors to learn how to navigate the Internet.

Overview

The Internet isn't a place or a thing, and it isn't owned by anyone. If you disconnected all the computers that are connected to the Internet, you wouldn't have an "Internet." This is in contrast to a commercial online network such as CompuServe, Delphi, or America Online who owns physical computer installations. For instance, CompuServe's headquarters, computers, and dedicated phone lines would still exist even if all their customers cancelled their memberships and decided to never connect to CompuServe's computer network again. The Internet is a cooperation between hundreds of thousands of computers around the world. Each computer that is connected to the Internet agrees to allow data traffic to flow through its circuitry and pass on to the next part of the network using a special set of rules that is universal to the Internet, TCP/IP (Transmission Control Protocol/Internet Protocol). This protocol allows computers of nearly every make and model, size and description to trade information with each other. Telephone companies, research centers, universities and the military all use the same internetwork to communicate. All of these major participants "donate" their connections so that others may use them. In other words, while connected to a local phone number, you may be grabbing a program to review anatomy of the head and neck from a computer in Zagreb. If one were to call that computer in Zagreb the long distance charges for 20 minutes would be sizable. However, the connection to that computer via the Internet costs nothing. The Internet is expanding at an incredible rate, with dozens of new services and thousands of megabytes of new information coming online daily. New user-friendly, graphical user software and lower Internet access costs have made it easier and cheaper than ever before to get connected. While about 23 million people use the Internet in some fashion, millions of these users only have access to Internet electronic mail (e-mail)

and aren't actually "on the Internet." E-mail connections are valuable, but without either a "dial-up" or "direct" connection, you simply can't take advantage of everything the Internet has to offer. We'll explain this more fully later on.

Computers and Modems

You'll need a computer, modem, and telecommunications (modem) software to get online. Almost any combination will do. But unless you're using a fast modem and a computer capable of graphics, you'll miss out on the excitement and ease of use offered by the latest graphical Internet software. You won't be able to view on-screen pictures and graphics, either. No matter what you think you'll do with your Internet connection, count on transferring lots of files and receiving loads of e-mail. You'll be doing a great deal of both once you become familiar with the thousands of resources available. So get the fastest modem you can reasonably afford. Currently 9,600 baud (measure of pieces of information transmitted per second) modems are available for under \$50, but for as little as \$70, a 14,400 baud modem is the sensible way to go. 28,800 baud modems that range in price from \$150-\$400 are rapidly becoming mainstream in the telecommunications world.

Finding Internet Service Providers

Since there isn't a central "Internet headquarters" for you to call to arrange Internet service, you'll need an Internet connection through an Internet Service Provider (ISP). Thanks to government funding, InterNIC (Internet Network Information Center) offers help on getting connected. There's lots more on this in the references below.

An ISP maintains a computer system with an expensive, full-time, high-speed link to the Internet which is staffed 24 hours a day. In turn, it offers its individual users inexpensive connections, assistance in getting set up, and ongoing support. Prices and connectivity options vary, and several types of Internet connections are available. These will be discussed shortly. You can keep long distance charges low by locating an ISP in your local calling area or choosing one that offers low-cost dial-up access through a local number. Start by checking out the ISP listing and other resources in the references.

The Connection That's Best for You

You'll find two distinct types of Internet connections each with its own Internet access capabilities. The one you select will depend on speed cost, and the kinds of things you plan to do online.

If you anticipate most of your traffic to be e-mail, then speed doesn't have to be your primary concern. At 9,600 baud an average e-mail message takes about two seconds to transmit. However, if you expect to transfer files, keep in mind that it takes a least eight minutes to download a 500K file (about 250 pages of text) at 9,600 baud. As you become increasingly familiar with the Internet. You will use it for much more than just e-mail. A faster connection will save you time and keep your costs down over the long term.

E-mail Accounts

For e-mail use only, many connection options are available, including commercial online services such as America Online, CompuServe, Delphi, NVN, and others. You'll find contact information for many of these services in the references. Subscribers to these services can send and receive Internet e-mail by dialing in via local access telephone numbers. Local bulletin board systems (BBSs) in your area may

also offer Internet e-mail connections or access to many Usenet newsgroups. A majority of BBSs will probably offer Internet e-mail accounts by mid-1995. Several chiropractic-only BBSs are making a debut on the Internet: Chiropractic Network Connection (CNC), ChiroSERVE, and ChiroLINK. Another type of Internet account that offers e-mail and Usenet newsgroups (topic-oriented online message bases or interest groups) is called a UUCP account, which stands for Unix-to-Unix-copy program. It's a method of communicating and sending e-mail and files between computers running the Unix operating system. There are hundreds of small Unix computer systems that offer inexpensive Internet e-mail connections to the public. Most operate in "batch" mode which means that they connect to the Internet to send and receive mail and Usenet news in "batches" at least once daily. A UUCP account is a good way to read or download newsgroups if your ISP doesn't offer them. Most BBS systems use UUCP to handle e-mail and newsgroups traffic. See the Appendix for information on obtaining lists of UUCP providers.

Disadvantages

Internet access limited to e-mail won't give you all the features you need to get the most out of the Internet. Services that offer only e-mail may even charge for messages and impose restrictions on message size. With only e-mail access, you cannot run Internet software to transfer files to your machine, connect to remote computers, and do global searches for the information you need.

To use the Internet to do business effectively, you need to have a dial-up or-better yet-a direct connection.

Dial-up Connections

The most common connection for most beginning Internet users is dial-up modem access to an ISP's computer system or "host." A dial-up connection is sometimes called an "online account." Although it provides access to the Internet, it is somewhat limiting and isn't as full-featured or desirable as a direct connection. Here's why: a dial-up Internet account is located on the host computer. You gain access to it by dialing in to the host computer with a modem (typically at 9,600 baud or 14,400 baud), and then logging in to your account. The host, in turn, connects by very high speed transmission lines directly to the Internet. As a dial-up user, you access the Internet using a basic menu system, but you are limited to using only the Internet navigational software installed on the host computer. Users with direct connections can use their own, more flexible software to navigate the Internet. A dial-up connection is usually inexpensive, as little as \$10 per month. If you live in a large city you should be able to locate an ISP within your local calling area to avoid long-distance charges. This type of Internet connection can be established quickly, sometimes in only a few minutes, and requires no special software or complicated setup procedures. And thanks to competition for new business, a number of ISPs such as NetCom, Delphi, Pipeline, and few others offer graphical user software to help make navigating the Internet easier using dial-up connections. Some ISPs offer "shell" access which means that when you dial in to your account you receive only a computer letter or symbol prompt, such as a \$, %, or >. Most don't offer menus so you'll have to use Unix commands to get around. If you're not familiar with Unix, and don't feel like learning a new set of commands, this isn't the best kind of access for you. If you are just starting out, get an account with an ISP that offers a menu-you'll be more efficient and save time and money.

At a minimum, a dial-up account will let you use FTP (file transfer protocol) and telnet (log-on to remote computers). Depending on what software your ISP has installed on its host, you may also be

able to use special software programs such as gopher (search and link to Internet systems via a user-friendly menu), IRC (Internet Relay Chat, a world-wide real time chat program), WAIS (search for documents on machines around the world using keywords), Archie (locate software or other files around the world), or Lynx (a text-based World Wide Web hypertext document browser). These programs are explained in InterNet tools. When comparing ISPs, be sure to ask what software will be available for you to use.

Disadvantages of Dial-up Accounts

The major disadvantage of using a dial-up connection is that all of your online activity takes place on the ISP's host machine. And in most cases you'll also be limited to using a text-based interface to the Internet. Any files you retrieve (download) will be sent directly to the host computer, which means you'll have to again download them to your own computer at another time. There are some exceptions. Pipeline, a New York City ISP, has developed special software that lets dial-up users receive files directly from the Internet. And a new software program called TIA (the internet adapter) can sit in your hosts computer and fool it into believing that you have a direct connection account, and allow all of your processes to occur on your own computer. See the references for information.

Local Access Numbers

To make it easier to connect to their systems, several national ISPs offer local numbers in cities around the country. For those people who live in smaller cities, many ISPs provide low-cost long-distance connections via local access numbers in hundreds of cities across the country and around the world. Delphi, for example, provides access to its host computer in Massachusetts through local access numbers in more than 850 cities. During the day, these access numbers cost about \$9.00 per hour, a bit less than normal long-distance rates. During the evening and on weekends Delphi absorbs all telecommunications expenses for using these access lines so users don't pay these costs at all.

Costs

Many of the larger ISPs offer flat-rate unlimited connections through these local access numbers at rates ranging \$15-\$35/month. Other plans from \$1.80/hour for late evenings to about \$12.00/hour for "prime time" weekdays. Make certain to factor in these rates when comparing ISPs. Since you'll want to spend lots of time online without worrying about running up large phone bills, search for an ISP in your local calling area that offers flat-rate service.

Summary

Dial-up connections are economical and will serve the needs of most chiropractic businesses, especially when first connecting to the Internet. Once you get started, though, you'll want more. You'll want faster connectivity, and your own company Internet address (yourbiz.com), and the ability to run user-friendly navigational software. You may even want to connect to your LAN (Local Area Network) to the Internet, or allow Internet users to have direct access to your computer. To do these things, you'll need to obtain a direct connection to the Internet.

Direct Connections

A direct connection means you're directly connected to the Internet and you receive a unique IP number (Internet Protocol "address") for your computer. You'll be able to run your choice of Internet

navigational software, including easy-to-use versions of ftp, telnet, gopher, WAIS, IRC, and others right from your computer. Since online activity takes place on your computer, you can automatically save files you retrieve directly to your hard drive. You'll also have worldwide presence with your own unique Internet address. You may hear direct connections referred to as dial-up IP, SLIP (Serial Line Interface Protocol) or PPP (Point to Point) connections. Although there are subtle differences between them, this report refers to all of the above as direct accounts.

How Direct Connections Work

Since it's your computer that's connected directly to the Internet and not to a host, you'll need special Internet software to establish your initial connection as well as to navigate the Internet. First, you need to install what's called a SLIP or PPP "dialer." This is software that dials into the Internet through your ISP's computer. To work in conjunction with that software you need to run Transmission Control Protocol/Internet Protocol (TCP/IP) software to let your computer "talk" to the other computers on the Internet. It's the Internet's computer "language." After your dialer opens a connection to the Internet and the TCP/IP software is "talking" to the Internet, you can begin navigating. You'll need to obtain a separate program for each type of navigation tool or program you want to use such as ftp, telnet, e-mail, WAIS, gopher, Mosaic, and others. Most ISPs offer two levels of direct connections: part-time or full-time. If you choose the lower-cost, part-time option you'll simply dial into your ISP whenever you want to connect. A full-time connection means that your computer is connected to the Internet around-the-clock. A full-time connection is usually more expensive, but if you plan to become an information provider, you'll need a full-time connection to allow others to access your computer at any time. If you want a full-time connection but aren't within an ISP's local calling area, then ask the provider about getting a leased line to avoid expensive long-distance charges. Most ISPs offer direct connections over dial-up modems to their host system at up to 14,400 baud, although speeds of 28,000 baud and faster are becoming available. If you need a high-speed 24-hour connection, or more capacity for, say, a LAN connection, a dedicated digital line offering 56,000 baud or faster speeds may be your best solution. It isn't difficult to arrange a SLIP connection, but it can take up to two weeks to register your choice of name and become fully operational. Each name must be unique. For example, there can be only one ibm.com. Your ISP will handle all the details of the registration process and will ask you to choose three alternate names to submit for registration.

Getting Direct Connection Software

All the software you'll need to use your SLIP connection is available for free on the Internet. But you'll have to search the Internet to find the version which works with your computer, retrieve it, and then install and configure it without the benefit of much documentation and practically no support. To make life easier, consider taking advantage of new software that has recently become available. You can buy a commercial package such as NetManager's Chameleon, Spry's Internet-in-a-Box, InterCon's WorldLink, or WinGopher from Notis Systems. All come with helpful support which greatly simplifies setup and configuration procedures. Several popular books, including The Internet Tour Guide series from Ventana Press, even include basic SLIP software. Buying the software you need is really the best way to go. It will save you hours of frustration and expensive online time.

Costs

The major factor affecting the cost of your direct connection is its speed. Faster is always better, and a higher speed connection will save time when you're downloading files and let you get the most out of

the new graphical user software programs such as Mosaic and Netscape. In most cases you can upgrade to a faster connection later, but consider getting the highest speed connection you can afford when you start. You'll be amazed at how much you'll use the Internet once you discover all it has to offer. You may also find yourself wishing you had opted for a higher speed connection at the outset. Individual SLIP connections range in price from \$20 to \$50 per month, and business accounts range from \$75 to \$250 with some ISPs charging an additional fee of \$1 to \$3 per hour. High capacity, high-speed accounts with unlimited usage can cost up to \$1,000 per month from ISPs and \$500-\$800 per month for the telephone company charges. But just because you're in business doesn't mean you have to pay the business rate. It is normally based on heavy use and is designed for those who want full-time, 24-hour connectivity. A small business with moderate online use of less than 50 hours per month should easily qualify for the individual rate. You may also want to set up more than one type of online connection. Depending on what's available in your area, consider dividing your online time among several Internet Service Providers or commercial online services. If you use the combination of a dial-up account, a SLIP Internet account, and a commercial online service such as CompuServe or America Online, you may save a lot in long-distance and per-hour charges. In addition, you'll have access to a variety of information sources. For instance, Delphi offers an inexpensive way to read news stories, browse databases, participate in online forums, read Usenet newsgroups, and access the Internet via a dial-up connection-all with no long distance charges in the evening hours. It's the perfect kind of account for browsing the Net's offerings at a leisurely pace and at very low cost. You'll always want to have a direct connection to do your serious navigating and to maintain a corporate presence on the Internet. Keep in mind that if you do use more than one online service, you'll be assigned a different e-mail address for each service. To avoid looking disorganized and to save you time and money, it's best to include only one, main e-mail address on your business correspondence.

Conclusions

Whether you decide to begin navigating the Internet via a dial-up or direct SLIP connection, getting started is the hardest part. The intricacies of setting up SLIP connections may seem daunting at first, but it's worth the hassle. Once online, you'll discover that navigating the Internet and using its vast resources is actually pretty easy. The Internet contains a wealth of valuable health care information and opportunities for worldwide collaboration amongst chiropractors.

References

National Internet Service Providers

Here are companies that can provide connection to the Internet anywhere in the United States.

AlterNet

Phone: (800) 4UUNET3 or (703) 204-8000

E-mail to: alternet-info@uunet.uu.net

CERFnet

Phone: (800) 876-2373 or (619) 455-3900

E-mail to: help@cerf.net

Global Enterprise Services, Inc.

Phone: (800) 35-TIGER

E-mail to: market@jvnc.net

HoloNet

Phone: (510) 704-0160

E-mail to: info@holonet.net

MCI

<http://www.mci.com/>

Netcom

Phone: (800) 501-8649

E-mail to: info@netcom.com

PSINet

Phone: (800) 827-7482 or (703) 620-6651

E-mail to: info@psi.com

Sprint-SprintLink Service

Phone: (800) 817-7755 or (703) 689-7680

E-mail to: info@sprintlink.com

InterNIC Information Services assists in locating an ISP in your area. They also offer advice and other helpful information for new Internet users.

InterNIC

Phone: (800) 444-4345

E-mail to: info@is.internic.net

Commercial online services

American Online Monthly fee: \$9.95 (Includes five hours of free usage.) Hourly fee: \$2.95 Phone: (800) 827-6364 E-mail to: postmaster@aol.com

CompuServe

Monthly fee: \$8.95

Hourly fee: \$6-\$16

Phone: (800) 848-8199

E-mail to: 70006.101@compuserve.com

Delphi

Monthly fee: \$10-\$20

Hourly fee: \$2-\$9

Phone: (800) 544-4005

E-mail to: service@delphi.com

Prodigy

Monthly fee: \$7.95-\$15

Hourly fee: \$3.60-\$4.80

Phone: (800) 822-6922

Book & Software Packages

These commercial Internet software and books will help you get the most out of your Internet connection.

Internet business video series, \$89 "Doing Business on the Internet" three-tape series on how to use the Internet for business. Covers Internet basics; how to get connected; how to put your company on the Internet; how to set up your own ftp and Mosaic/World Wide Web information center; and how to become an information provider. Three tapes, VHS format. Available directly from Wentworth Worldwide Media (800) 638-1639. E-mail to: orders@wentworth.com

Software

All these packages include the necessary TCP/IP software to establish a direct SLIP connection, plus at least e-mail, ftp, telnet, and gopher, unless noted.

Internet JumpStart Kit, Mac, Windows and DOS, \$25 Compiled by Internet Business Advantage, Internet JumpStart Kits include all the software you need to get online via a SLIP connection, along with easy-to-understand setup and installation instructions. Two-disk set. Discount coupons for several Internet SLIP account providers. Available directly from Wentworth Worldwide Media (800) 638-1639. E-mail to: orders@wentworth.com

Mosaic Starter Kit, Mac and Windows, \$25 Includes Mosaic and the TCP/IP software required for a SLIP connection. Available directly from Wentworth Worldwide Media (800) 638-1639. E-mail to: orders@wentworth.com

Pipeline for Windows, \$79. Not SLIP software, but provides many of the same capabilities via a regular dial-up connection. Very easy to use, and offers dozens of preloaded menus with pointers to Internet hot spots. Pipeline is an ISP and also offers SLIP accounts (so you can run Mosaic). Phone (212) 267-3636. E-mail to: staff@pipeline.com

Internet Chameleon for Windows, \$199 A breeze to install; easy to use. Available through some ISPs and directly from NetManage Inc. at (408) 973-7171. E-mail to: support@netmanage.com

Internet-in-a-Box, Windows, \$149 Includes Ed Krol's best-selling The Whole Internet User's Guide and Catalog, ftp, telnet, and other Internet software plus Mosaic. Call Spry at (800) 777-9638. E-mail to: info@ibox.com

WinGopher, Windows, \$129 Includes 30 free minutes of Internet connect time from a participating access provider. Costs \$69 without TCP/IP software. Call NOTIS Systems, Inc. at (800) 55-NOTIS. E-mail to: wingopher@notis.com NetCruiser, IBM available only to NetCom customers, free for limited time only. Provides graphical point-and-click use of the Internet. For more info call Netcom at (800) 501-8649. E-mail to: info@netcom.com

Worldlink, Mac and IBM, \$29.95 Intercon's Worldlink puts a user-friendly, point-and-click interface on the Internet via an inexpensive dial-up account. Also Software available for direct SLIP accounts \$295-\$495. Contact Intercon at (800) INTRCON. E-mail to: info@intercon.com

Books

Connecting to the Internet

Susan Estrada

O'Reilly & Associates

ISBN: 1-56592-061-9

\$15.95

Doing Business on the Internet

Mary Cronin

Van Nostrand Reinhold

ISBN: 0-442-01770-7

\$29.95

The Internet Companion Plus

Author: Tracy LaQuey & Jeanne Ryer

Publisher: Addison Wesley

ISBN: 0-201-62719-1

\$19.95

The Internet Starter Kit for the Macintosh, Adam Engst Hayden Books ISBN: 1-56830-064-6 Includes all the software needed to get connected. \$29.95

The Internet Unleashed Steve Bang, Martin Moore, Rick Gates, et al., Sams Publishing ISBN: 0-672-30466-X Includes both IBM and Mac software. \$44.95

PC Internet Tour Guide-DOS, Mac, and Windows, Michael Fraase Ventana Press, Includes complete set of connectivity software. \$24.95

The Big Dummy's Guide to the Internet

Adam Gaffin

Publisher: M.I.T. Press

ISBN: ()-262-57105-6

\$14.95

The Complete Idiot's Guide to the Internet, Peter Kent Alpha Books ISBN: 1-56761-414-0 Includes IBM connection software. \$19.95

Magazines

Internet World

MecklerMedia Corp.

\$29.00 per year

e-mail:info@mecklermedia.com

NetGuide

CMP Media

\$22.97 per year

e-mail:netsubs@cmp.com

Chiropractic BBS Services

CNC

Footlevers

1-800-553-4860

Chiro-Serve

1-800-410-6329

ChiroLINK

1-800-637-6753

Paul Cronshaw, DC

Santa Barbara, California

Steven Machado, DC

West Hollywood, California

JUNE 1995