

The Internet for Dentists

INTERNET CONNECTIONS

© J Can Dent Assoc 2000; 66:297

You can gain access to the Internet using a variety of different methods. Typically, to access the Internet, you must have an Internet Service Provider (ISP). In Canada, you have a choice of ISPs from among your telephone company, cable company, power company, satellite company, cellular company, university or government. An ISP is your on-ramp to the Internet; once you're on you can travel to other networks and communication systems.

The speed of an Internet connection is measured in a unit called a *bit per second* (BPS). It can range from the slower kilobyte per second (KBPS) to the faster megabyte per second (MBPS), which are the speeds typically offered by an ISP. The Internet backbone is said to be travelling at the fastest rate of a gigabyte per second (GBPS).

Your connection speed is limited by the speed of your ISP's ramp onto the Internet. This connection is termed "the last mile" and is where a bottleneck can occur. The volume of traffic, roadblocks and different types of computers/routers can affect the backbone of the Internet and slow down access.

With enhanced multimedia capacities and the increasing number of users, the Internet is likely to experience growing pains over the next few years. Having a fast Internet provider will help minimize these concerns, until initiatives like the Internet II project provide some of the enhanced infrastructure necessary to meet the growing demands.

It is estimated that there are 7.5 to 8 million Internet users in Canada, a number that is growing exponentially. If you're thinking about joining these ranks, consider the following.

Speed — Before choosing an ISP, consider your overall needs. A frequent Internet user may need a high-speed connection. Also take into account that the speed of your ISP will be different depending on whether you are downloading (bringing) or uploading (sending) information. The higher speed connection costs more but can save time if you are using the Internet to run your dental office.

Availability — Some ISP products are only available within certain distances. For example, a Digital Subscriber Line (DSL) has distance restrictions as do some cable connections, which are not as widespread in downtown areas.

Cost — Generally the higher the speed the higher the cost.

Types of Connections

Dial-up Modem Connection — Offered by a number of small to large ISPs, this connection usually travels at a speed of 28.8 to 56 KBPS, which is suitable for e-mail communication but too slow for video and large file transfers. The cost is low, but it is not as practical or convenient as a full-time connection. This type of connection usually requires an analog telephone line, but a fax line into the dental office can be shared with the dial-up. It's important to note that when you are online your phone line will register as busy. Wireless connections are also available via dial-up and will become more convenient in the near future.

ADSL (Asymmetric Digital Subscriber Line) — This service is usually offered by the major telephone companies. DSL uses a digital modem to connect to a local switching station. This service can use your regular phone line but does not interfere with outgoing or incoming calls. It offers a continuous connection to the Internet that is 150 times faster than the dial-up connection. It costs more on a monthly basis but the convenience and speed are attractive features. When using a full-time connection to the Internet, you should use a firewall to protect against intruders.

Cable Modem — Usually offered by local cable companies, cable modems, like the ADSL, offer a high-speed continuous connection via a coaxial cable wire. Unlike the ADSL, the cable service typically does not use a designated line. Thus one cable will service a neighbourhood of Internet users. This can slow down Internet connections since the main bottleneck is located between your computer and the ISP. Cable modems are certainly desirable for a dental office; a firewall should also be used with this type of connection.

Satellite Access — While impractical for an urban dental office, satellite access is good for rural offices that cannot access other high-speed routes. It requires downloading from the satellite and uploading through an analog phone line.

ISDN (Integrated Services Digital Network) — Digital telephone service that works over existing copper telephone wiring. You should be within 18,000 feet of the central telephone office to use this service. ISDN can usually travel up to 128 KBPS. This connection is expensive compared to the others.

T1-T3 Lines — Used by telephone companies and other ISPs to connect to the Internet backbone. Connection is available through dial-up services. Cost is prohibitive for small businesses.

If you are planning an Internet connection for your office and don't know which is best, start with a simple connection. Keep in mind, however, that your ISP provides your e-mail address, so if you have to change providers (and therefore get a new e-mail address), your patients may have difficulty finding you.

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The views expressed are those of the author and do not necessarily reflect the opinion or official policies of the Canadian Dental Association.
