

Integrating Speech Recognition Software into Medical Practice: Frequently Asked Questions

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GENERAL QUESTIONS ABOUT INSTALLATION AND USE OF DRAGON:

What does speech recognition software do? In the simplest terms, speech recognition software allows your voice to substitute for keyboard entry on a personal computer. In so doing, it allows for entry of text in a word processing document or text box within an Electronic Medical Record (EMR) and navigation on your computer simply by speaking into a microphone. In addition, speech recognition software has functionality which allows multi-step processes on the personal computer to be initiated with a single spoken command.

What are the hardware requirements? In general, most recent vintage Windows-based computers support the use of speech recognition software. Specific requirements appear in the table below. Although a minimum of 1 GB of RAM (random access memory) is required, 2 GB or more is generally preferred.

	Processor	RAM	Free Hard Drive	L2 Cache
“Minimum”	Intel Pentium 1 GHz or faster	512	2.5 GB	512 KB
“Recommended”	Intel Pentium 2.4 or 1.6 dual core	1 GB (2GB*)	2.5 GB	1 MB

Will speech recognition software work on a Macintosh computer? Although there are several speech recognition programs that will work on a Macintosh, including IBM ViaVoice and MacSpeech Dictate, neither of these programs offer the functionality of Dragon NaturallySpeaking, our recommended solution. If you are determined to run Dragon on a Mac, it is possible to do so in 3 ways if you have one of the new Intel Macs.

1. Use boot camp to set up a hard drive partition on which you can install the Windows operating system (XP or Vista) and install Dragon on this partition. Dragon will work fine. The only problem with this arrangement is that you will be running the Windows operating system and not have access to your Apple software and functionality
2. You can use either Parallels or Fusion to run a Windows partition on your Mac “virtually”. This allows you to launch the Windows OS from within the Mac OS. The only issue with this

arrangement is that there are occasionally some issues porting the sound from the Apple hardware to the Windows OS.

Will a faster computer provide better accuracy? No. A faster computer will lead to your words showing up faster and tends to make the process a bit quicker and more enjoyable, but processor speed does not directly influence accuracy.

How much training is necessary to get the software working at a high level of accuracy? Once the software is installed (a 20 minute process), you must create a new “user profile” by teaching dragon how you talk. You are required to read a 5-6 minute training text. At this point Dragon will be 95% accurate with good enunciation. Higher levels of accuracy (99-100%) can be achieved as you use Dragon and correct the occasional error that occurs.

What does the user need to do in order to achieve high levels of accuracy with speech recognition software? Many factors influence accuracy, including the quality of the computer sound card, the microphone quality, and the presence (or absence of contaminating external noise). By far the most important determinants of accuracy are dictation style and careful enunciation.

- Dictation Style: The type of dictation that works best is smoothly flowing words grouped in either phrases or complete sentences. It is helpful, therefore, to think about what you plan to say before dictating with speech recognition software.
- Enunciation: Careful enunciation is extremely important and requires that you speak a bit more distinctly than you might in casual conversation. Slurring of words and mumbling type of speaking will tend to reduce your accuracy. It is not necessary, however, to speak loudly or harshly. Copying the type of enunciation used by newscasters will generally lead to the best results.

How many software licenses will be needed in my office if there will be more than one user? Although there is nothing to stop multiple users from sharing the dragon program on a single personal computer or work-station, the Dragon End User Agreement requires that each user have a separate license.

Can a single licensed user install Dragon on more than one computer? Yes. If you work in several offices or otherwise intent to use Dragon on more than one computer, you are allowed to install the product on multiple machines.

What are Dragon commands? How will this help my efficiency? The ability to create commands or macros is a functionality that can greatly extend the productivity of Dragon users that use repetitive language or perform repetitive actions on the PC in the course of a usual day. Here are some examples:

- Text commands: These allow you to insert a specified phrase, sentence, paragraph, image or other data into a text document by speaking a brief pre-specified word or phrase. As an example, if you customarily document the counseling discussion before performing a common procedure in the same way each time, you can make a command out of the procedure documentation and insert it any time you desire (with any patient) by simply speaking the

command name. These commands take literally seconds to create and forever available for you to use. Such commands can be easily shared from one user to another.

- **Advanced commands:** these require a bit of programming knowledge and allow you to program Dragon to perform more complex and sequential actions upon a voice command.

What are the differences between the full medical version of Dragon and the Small Practice Edition?

The small practice edition of Dragon is a paired down, slightly less functional and slightly less expensive version of Dragon designed for small offices. In general we do not recommend this version because it lacks certain functionality that we consider important, even to the small medical practice. Here are the key differences:

1. The Small Practice Edition is lacking the pathology and radiology vocabularies
2. The Small Practice Edition does not include “dragon templates” which are a means by which you can quickly navigate through a document by voice

What is the importance of vocabularies in using Dragon? Vocabularies are extremely important to obtaining high levels of accuracy in two respects. First, it is critical that you choose the right baseline vocabulary (one appropriate to your medical specialty) when setting up your first user profile. This will serve as the base vocabulary from which Dragon will select words as it hears you talk. Second, it is extremely helpful to add personalized words to your vocabulary. Personalized words might include proper nouns that are probably not in the Dragon vocabulary such as the names of local hospitals, names of referring physicians (or your partners) and specialized words pertaining to your office or hospital. New words can be added to your user profile one word at a time using the “Words” menu, or can also be added as long lists of words in a .txt document. Like commands, specialized word can be shared from user to user and added to a user’s profile in a single step.

USING DRAGON WITH AN ELECTRONIC MEDICAL RECORD:

Will Dragon work with all electronic health records? Dragon will work in most common word processing documents, including WordPad, Microsoft Word, WordPerfect, etc. Each EHR uses a specific embedded word processing program for text entry and Dragon tends to work well with each of these. There may, however, be some variation in the functionality of Dragon from one EMR to another. The makers of Dragon are constantly working to assure the integration of their product, particularly the medical version of Dragon, with the extensive selection of EMRs being utilized today. A current list of EMRs that are specifically certified for use with Dragon is shown in an attached document.

Is it necessary to use the Medical version of Dragon with an electronic health record? In general, yes. For a number of reasons, Nuance, the maker of NaturallySpeaking, has arranged that non-medical versions become essentially inoperable when working in most common EMRs.

What special functionalities does Dragon NaturallySpeaking offer for medical users? The medical version of Dragon includes a variety of unique features that make it highly supportive of physician workflow. These include:

- Dedicated medical vocabularies: Dragon 10 Medical includes nearly 80 specialized vocabularies. These are listed in the appendix.
- Medical formatting options: Examples include the ability to automatically expand medical abbreviations (CHF > congestive heart failure; b.i.d. > twice daily), automatic formatting of certain key terms (no code > NO CODE)
- HIPPA compliance
- Inclusion of “Dragon Templates” which allow quick navigation through a note in progress

Does Dragon include specific commands for use within my EMR? Most of the native commands built into Dragon will work in any word processing environment, including the text entry windows within an EMR. Additional functionality which is fairly universal, such as the ability to click on a button, close a window, or open and select something from a navigation menu, will also work within an EMR. There may be special functions which you might want to accomplish within an EMR and which are not built into Dragon. These are generally easy to create and can be done so by Speech Recognition Solutions or a speech recognition champion within your practice.

How long will it take to recoup the costs of implementing speech recognition software in my office? Obviously this can be highly variable and depends on whether your providers are currently using paid transcription or direct data entry. Likewise, if your users are currently hand-typing, the ROI will depend upon how you value the time, productivity and reduced billing from inefficient documentation. The following table shows ROI calculations for a pilot study of speech recognition software at Dartmouth-Hitchcock Medical Center and shows the time to break even with speech recognition software compared with varying levels of annual paid transcription.

Annual Transcription Cost per Provider	Year One Break Even Point for Speech Recognition (number weeks)
\$1000	Never
\$5000	17
\$8000 ¹	11
\$10,000	8
\$15,000	6
\$20,000	4
\$25,000	5

¹ \$8000 annual figure is based on data from the Medical Transcription Market Alliance.

ABOUT SPEECH RECOGNITION SOLUTIONS

What does Speech Recognition Solutions provide that I can't do on my own? Although some practices, particularly those with an experienced “champion” in the use of speech recognition software, have been able to take the plunge without assistance, this is often fairly risky and is associated with a high risk of failure. Why? Speech Recognition Solutions offers the following:

1. Assessment of your practice logistics, workflow and current EMR
2. Assessment of your current hardware and its suitability for use with Dragon; if necessary we will make recommendation for hardware procurement
3. Assistance in the installation of the software
4. Assistance in configuring your software
5. Initial user training (typically 2 hours per user – done either in person or during a personalized web based training session)
6. Provision of a starter command/macro set to assist in provider efficiency
7. After sales support

What does Speech Recognition Solutions offer over another vendors? We consider our primary advantage the high level of medical involvement of everyone involved in our company. Speech Recognition Solutions is physician owned and managed. Our training division is headed by a woman with years of nursing experience. In addition to the medical orientation of our company, we are a family owned and managed business. We take great pride in providing honest advice, fair prices, and excellent support. Our goal is to be rewarded for providing value to our customers. Absent the providing value, we are simply selling software and this is not our goal.

What support will Speech Recognition Solutions provide after the sale? In general we will contract to assist in setting up the software for users, provide assistance in constructing an initial command set for use in your EMR, and provide initial (in depth) training for your users. We are happy to field questions after this time. For more extensive trouble-shooting, additional user training, and other requests, we will offer our technical and training services on a for-pay hourly basis.

Appendix:

Vocabularies supported in Dragon 10.1: Dragon Medical includes 80 pre-configured medical Specialty and sub-specialty vocabularies. A detailed overview of medical vocabularies is shown below:

- General English: Non-medical vocabulary for dictating emails, letters, etc.
- General Medical: A broad, non-specific medical vocabulary covering a wide range of medical specialties. Select this model if no other choice is applicable for you.
- Allergy and Immunology
- Anesthesiology
Subspecialties:
 - Pain Medicine
- Colon and Rectal Surgery
Subspecialties:

- Proctology
- Dermatology
- ENT
- Emergency Medicine
- Family Medicine
- Internal Medicine
 - Subspecialties:*
 - Cardiology
 - Clinical Cardiac Electrophysiology
 - Endocrinology, Diabetes and Metabolism
 - Gastroenterology
 - Geriatric Medicine
 - Hematology
 - Infectious Diseases
 - Oncology
 - Nephrology
 - Pulmonary Disease
 - Rheumatology
- Neurology
- Neurosurgery
- Nuclear Medicine
- Obstetrics and Gynecology
 - Subspecialties:*
 - Fetal Medicine
- Ophthalmology
- Orthopedic Surgery
 - Subspecialties:*
 - Hand Surgery
- Pathology*
- Pediatrics
 - Subspecialties:*
 - Neonatal-Perinatal Medicine
 - Pediatric Cardiology
 - Pediatric Endocrinology
 - Pediatric ENT
 - Pediatric Gastroenterology
 - Pediatric Hematology-Oncology
 - Pediatric Infectious Diseases
 - Pediatric Nephrology
 - Pediatric Pulmonology
- Pediatric Rheumatology
- Physical Medicine and Rehabilitation
- Plastic Surgery
- Psychiatry
 - Subspecialties:*
 - Addiction Psychiatry
 - Child and Adolescent Psychiatry
 - Geriatric Psychiatry
 - Neuropsychology
 - Mental Health
 - Behavioral Health
- Radiology*
 - Subspecialties:*
 - Vascular and Interventional Radiology*
- Radiation Therapy
- Surgery
 - Subspecialties:*
 - Trauma Surgery
 - Pediatric Surgery
 - Bariatric Surgery
 - Breast Surgery
- Other Surgery Specialties
 - Oral and Facial Surgery
 - Vascular Surgery
 - Thoracic Surgery
 - Cardiac Surgery
 - Urology, Including, Pediatric Urology
- Other Specializations
 - Dentistry
 - Pediatric dentistry
 - Nursing
 - Psychology
 - Speech Therapy
 - Midwifery
 - Osteopathy
 - Podiatry
 - Epidemiology
 - Medical education/writing
 - Sleep Lab

* Not included in Dragon Medical Small Practice

EHR Compatibility: The following is a list of Dragon compatible EMRs compiled by 1450, Inc., the largest distributor of Dragon medical software:

- A.I.med EMR By Acrendo Software, Inc.
- ABELMed EHR - EMR / PM By ABEL Medical Software Inc.
- Abraxas EMR By Abraxas Medical Solutions
- Accel™ By CliniWorks™, Inc.
- AdvantaChart™ By AdvantaChart, Inc.
- Agastha Medical Records (EMR) By Agastha, Inc.
- AllMeds EMR System By AllMeds, Inc.
- Amazing Charts By AmazingCharts.com, Inc.
- Medamation™ MD By Medamation, Inc.
- MedAppz iSuite By MedAppz, LLC
- Medflow EMR By Medflow, Inc.
- Medi-EMR By Medi-EMR, LLC
- Medical and Practice Management (MPM) By LSS Data Systems®
- MedicalNotes.com By MedicalNotes.com
- Medical Practice Solutions By Medical Voice Products
- MedicsDocAssistant™ By Advanced Data Systems Corporation
- Medios EHR By IOS Health Systems

- ARIA™ Oncology Information System By Varian Medical Systems, Inc.
- BETTERHEALTH record™ By BETTERHEALTH Global (USA), Inc.
- Centricity® By GE Healthcare
- ChartCare EMR By CHARTCARE, Inc.
- ChartEvolve By The CIMS Group
- ChartLogic EMR By ChartLogic, Inc.
- ChartMaker® By STI Computer Services, Inc.
- ChartWare® By Chartware, Inc.
- Clinical Navigator By Systemedx, Inc.
- CureMD PRS® By CureMD PRS®
- CYRAMED™ By Mountain Medical Technologies, Inc.
- DC Talk™ By JR Consulting
- digiChart® By digiChart, Inc.
- Doc-U-Chart for the Tablet PC® By Doc-U-Chart
- DoctorAssistant By HealthHighway™.com, Inc.
- Doctors Choice EMR™ & Nurses Choice EMR™ By EMRSystems
- DocuMed® By DocuMed, Inc.
- Dragon® Medical By Dragon® Medical
- e-MDs Solution Series By e-MDs, Inc.
- e-Medsys™ Electronic Health Record By PracticeOne, LLC
- E-Record EMR By Exscribe, Inc.
- eClinicalWorks By eClinicalWorks
- EDIM By EDIMS, LLC
- Electronic Patient Charts By American Medical Software
- eMedRec By Holt Systems, Inc.
- Empower System™ By ECDS (Emergency Care Documentation Systems)®
- EMR4DOCTORS By EMR4DOCTORS
- emr4MD By Mednet System
- EMRWorks™ By MedStar Systems, LLC
- EndoSoft® By Utech Products, Inc.
- EpicCare Ambulatory EMR By Epic Systems Corp.
- Epitomax® By PsyTech Solutions, Inc.
- Evolution EMR™ By Portico Systems, Inc.
- EyeDoc® EMR By Penn Medical Informatics Systems, Inc.
- EZChart™ By AssistMed, Inc.
- FreeMED By FreeMED Software Foundation
- gCare™ By gMed, Inc.
- GlaceEMR™ By Glenwood Systems, LLC
- gloEMR By gloStream, Inc.
- Harmony e/Notes EMR By HARMONY MedTec, Intl.
- HealthPort EMR V9.0 By HealthPort™
- Health Probe Professional By Health
- Medscribber™ By Scriptnetics, Inc.
- MedTemps™ By Trigram Technology
- MicroMD® EMR By Henry Schein® Medical Systems, Inc.
- MindLinc from Duke University Behavioral Health Informatics By MindLinc: Duke University Behavioral Health Informatics
- mMD.net EHR By Health Communication Systems, Inc.
- NetPractice EHR By Noteworthy Medical Systems, Inc.
- Nightingale On-Demand By Nightingale Informatix Corporation
- OfficeEMR™ 2008 By iSALUS Healthcare™
- OmniMD™ EMR By Integrated Systems Management, Inc.
- OncoEMR By Altos Solutions
- ORIGIN By Medaxis Corporation
- Patient Chart Manager By Prime Clinical Systems, Inc.
- PBOmd By PBO Corporation
- PeakPractice™ By Eclipsys®
- PerfectMed™ EHR By Imogen Systems
- Phoenix Ortho By Phoenix Ortho, LLC
- Physician Practice Documentation (PPD) By Healthland, Inc.
- Power Chart By Exan Mercedes Software, Inc.
- PowerSoftMD By Data Tec, Inc.
- Practical Medical Record™ By Electronic Pediatrician, LLC
- Practice 2009 By NexTech Systems, Inc.
- PracticeOrders By PracticeSuite.com/Incite Systems, LLC
- Practice Partner® By Practice Partner/McKesson Corporation
- PracticeStudio.NET® By MicroFour, Inc.
- Practice Today By Legacy Press
- PRAXIS EMR V4.0 By Infor*Med, Inc.
- PrimeSuite® 2008 By Greenway® Medical Technologies
- PrognoCIS™ By BizMatics®, Inc.
- ProgNote/MobileLink By ACS
- Pronto By Clinical Insight Systems, Inc.
- PsychNotesEMR By American Psychiatric Management Services, LLC
- Pulse Patient Relationship Management (Pulse PRM) By Pulse Systems, Inc.
- Quick Notes EMR By Quick Notes, Inc.
- Raintree By Raintree Systems, Inc.
- Rosch EMR-Allergy By Rosch Visionary Systems, Inc.
- SamNotes2000 By ICS Software Ltd.
- ScriptSure By Daw Systems, Inc.
- SmartEMR By VipaHealth Solutions
- SOAPware® By SOAPware, Inc.
- STIX EMR By Integritas, Inc.
- Team Chart Concept By Ulrich Medical Concepts, Inc.
- TexTalk Medical By Alma Information Systems
- The AMCIS Network By M.D. Web Solutions
- The Chart! By DescriptMED, LLC
- TheraManager™ By TheraManager™ Software, Inc.

Probe

- Horizon Ambulatory Care™ By McKesson
- iAchieve EHR By ChartLogic, Inc.
- iDocLocker By Sagittarius Software, Inc.
- InSync By Intivia, Inc.
- InteliDOX® By Businet
- Intelligent Medical Software / IMS By SuiteMed, LLC
- IO Practiceware By IO Practiceware
- Janus Health By Janus Health, Inc.
- Life Record™ EMR By Life Record, Inc.
- MD-Journal By HemiData, Inc.
- MD-Navigator Clinical® By Benchmark Systems™
- MD Advantage™ By Compulink Business Systems, Inc.
- MDAware® 2.2 By eMedicalFiles®, Inc.
- MDLAND Electronic Health Record and Practice Management Systems 8.0 By MDLAND
- MDSyncEMR By MDSyncEMR, LLC
- MED3000 InteGreat EHR By MED3000, Inc.
- Touch ED® By Touch Medix®, LLC
- TransMed By TransMed Network
- Turbo-Doc EMR By Turbo-Doc, Inc.
- Unifi-Med™ By Unifi Technologies, Inc.
- UroChart™ EMR By Intuitive Medical Software, LLC
- Valant EMR By Valant Medical Solutions™, LLC
- VersaSuite 7.5 By Universal Software Solutions, Inc.
- Visionary™ DREAM EHR 7.1 By Visionary Medical Systems, Inc.
- **Waiting Room Solutions Practice Management System By Waiting Room Solutions**
- WebChartEHR By Experior Healthcare Systems
- Webchart EMR and MIE™ Minimally Invasive™ EMR By MIE - Medical Informatics Engineering
- Wellsoft EDIS By Wellsoft Corporation
- workflowEHR™ By Workflow.com, LLC
- WriteMD® By Medinformix®, LLC
- WritePad™ EMR Systems By Addison Health Systems, Inc.
- XLEMR By XLEMR