

# Automatically convert speech into fully-formatted documents.

Intelligent speech recognition.

## Challenge

How can dictated speech be turned into completed documents faster and for less cost?

## Solution

AutoScript™ uses speech recognition to convert speech into fully-formatted draft documents that medical transcriptionists can edit quickly—often doubling their productivity.

The AutoScript product is a powerful speech recognition engine that creates high-quality draft documents from clinicians' dictations, with the primary goal of significantly improving medical transcriptionist (MT) productivity and thereby reducing transcription costs. Nuance designed and built the unique speech recognition technology of AutoScript exclusively for use in medical transcription.

### State-of-the-art speech models

AutoScript rapidly applies multiple speech recognition models to clinicians' dictations in order to produce high quality drafts.

AutoScript makes use of an Acoustic Model that learns clinicians' voices and filters out background or line noise. Further context analysis is achieved through a Language Model that corrects for ambiguities such as between "mail" and "male". In addition, an Interpretive Model formats documents based on an organization's preferred style. AutoScript's sophisticated speech models are derived from a database of billions of words of dictation that is still growing. These models adapt to each clinician and work type pair at your organization. As a result, AutoScript can recognize more clinicians and higher dictation volume across your organization. This generates superior productivity gains when compared with other speech recognition engines.

### Interpretation and formatting

The powerful Interpretive Model enables AutoScript to interpret and format clinicians' dictations, often determining what is meant for the report, even when it is not exactly what is said. The Interpretive Model formats section headings, lists, dosages and much more, based on each organization's Style Guide. Drawing upon the Interpretive Model, AutoScript applies punctuation to draft documents, whether or not it is spoken.

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### Key Benefits

- State-of-the-art speech models
  - Interpretation and formatting
  - No explicit clinician training
  - Context analysis
  - Learns from MT corrections
  - Supports voice macros and normals
  - ASP architecture
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### **Content analysis**

AutoScript takes into account contextual information at the document, sentence, and phoneme level, to produce accurate content and correct formatting. The speech recognition engine rapidly processes each dictation multiple times. This enables the software to adapt to the acoustic environment (e.g., type of telephone), and to capture information in one part of the document that helps determine the correct output into another part of the document.

### **Learns from mt corrections**

In the process of computer aided medical transcription, AutoScript learns from edits to documents made by MTs. The integrated EditScript™ transcription tool provides automatic, ongoing feedback to AutoScript that enables it to continually improve. For example, MT corrections can help the engine learn new vocabulary, proper formatting, or when to use or expand acronyms.

### **No explicit clinician training**

Many clinicians' organizations were not even aware that their facility had switched to Dragon® Medical 360 | eScription, because there was no explicit training required for them. The clinicians dictate as usual and those early dictations are transcribed traditionally, while AutoScript builds its speech models behind the scenes. AutoScript then tests the quality of the initial drafts before releasing them to MTs. Only when the quality of the drafts is good enough to improve productivity will the MTs start editing draft dictations instead of typing them from scratch. AutoScript is also very successful with non-native speakers and clinicians with diverse accents.

### **Supports voice macros and normals**

Clinicians who make use of normals in their dictations can use voice macros to automatically insert their pre-defined content. AutoScript can be configured so that an expression such as, "Please insert my normal hypertension template", triggers insertion of pre-formatted text.

### **ASP architecture**

AutoScript servers are deployed in a secure data center where the speech recognition takes place. The ASP architecture reduces upfront costs and simplifies maintenance, saving IT costs and resources. This ASP architecture allows the Dragon Medical 360 | eScription platform to draw upon substantial computational resources to deliver the best performance and continually improve and enhance the effectiveness of the AutoScript engine.

**Nuance Healthcare**, a division of Nuance Communications, is the market leader in providing clinical understanding solutions that accurately capture and transform the patient story into meaningful, actionable information. These solutions are proven to increase clinician satisfaction and HIT adoption, supporting thousands of hospitals and providers to achieve Meaningful Use of EHR systems and transform to the accountable care model.

To learn more about how Nuance Healthcare can help you improve financial performance, raise the quality of care, and increase clinician satisfaction, please contact us at 888-350-4836 or visit [www.nuance.com/healthcare](http://www.nuance.com/healthcare).

### **About Nuance Communications, Inc.**

Nuance Communications is reinventing the relationship between people and technology. Through its voice and language offerings, the company is creating a more human conversation with the many systems, devices, electronics, apps and services around us. Every day, millions of people and thousands of businesses experience Nuance through intelligent systems that can listen, understand, learn and adapt to your life and your work. For more information, please visit [nuance.com](http://nuance.com).