Controlling Practice Partner using AutoHotKey

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http://tinyurl.com/PP-AHK

Agenda

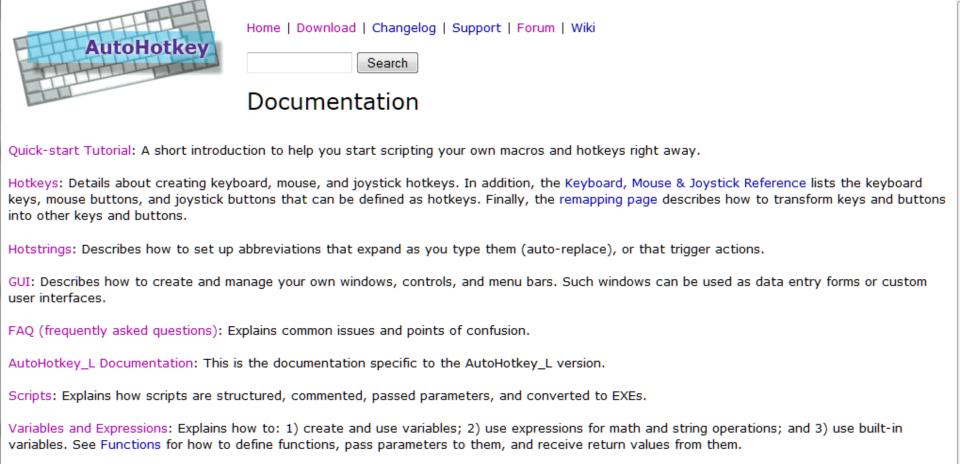
- Overview of AutoHotKey
- Adding new functionality to Practice Partner
- Editing tools for the note editor
- Updating the History Sections from within a note
- PP Helper
- PP Calcode

Overview

- AutoHotKey is an open source desktop automation tool
- It works very well with Practice Partner to add new features and functionality by creating scripts, which can be converted into stand-alone programs
- It is available without charge at <u>http://www.autohotkey.com</u>
- Users can share scripts, and many scripts are available now at the EMR Village File Sharing Site

AutoHotKey Features

- Scripts can be created with any text editor (like Windows Notepad)
- Scripts can be "compiled" into executable files so that users cannot modify them (important in Enterprise Environment), but each user can set his own preferences
- Extensive documentation and help on the web.



Script Showcase (samples): Download some useful scripts, or just study them to learn by example.

Notes for AutoIt v2 Users: Explains compatibility with AutoIt v2 and the enhanced syntax and commands.

riretox *

documentation.

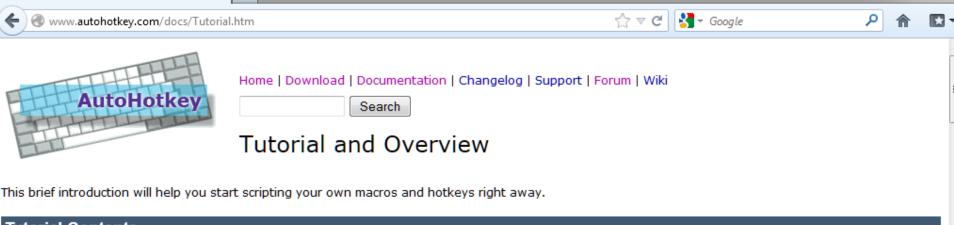
AutoHotkey Documentation

www.autohotkey.com/docs/

+

Available translations: Deutsch Français III Italiano Russian Japanese Greek Portuguese

Command Reference: An alphabetical list of all commands and major functions. Each one is briefly described and linked to its detailed page in the



Tutorial Contents

Firefox ▼

Creating a script

AutoHotkey Tutorial: Macro and Hotkey... +

- Launching a program or document
- Sending keystrokes and mouse clicks
- Activating and manipulating windows
- Getting input from the user with MsgBox, InputBox, etc.
- Using variables and the clipboard
- Repeating a series of actions over and over
- Manipulating files and folders
- · Overview of other features

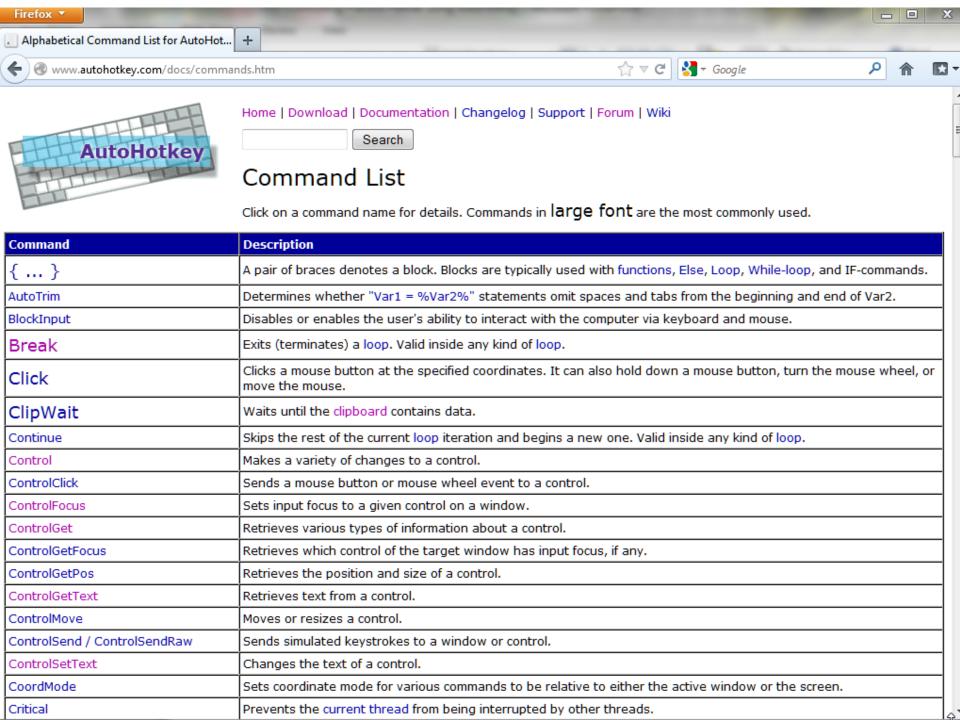
Creating a script

Each script is a plain text file containing commands to be executed by the program (AutoHotkey.exe). A script may also contain hotkeys and hotstrings, or even consist entirely of them. However, in the absence of hotkeys and hotstrings, a script will perform its commands sequentially from top to bottom the moment it is launched.

To create a new script:

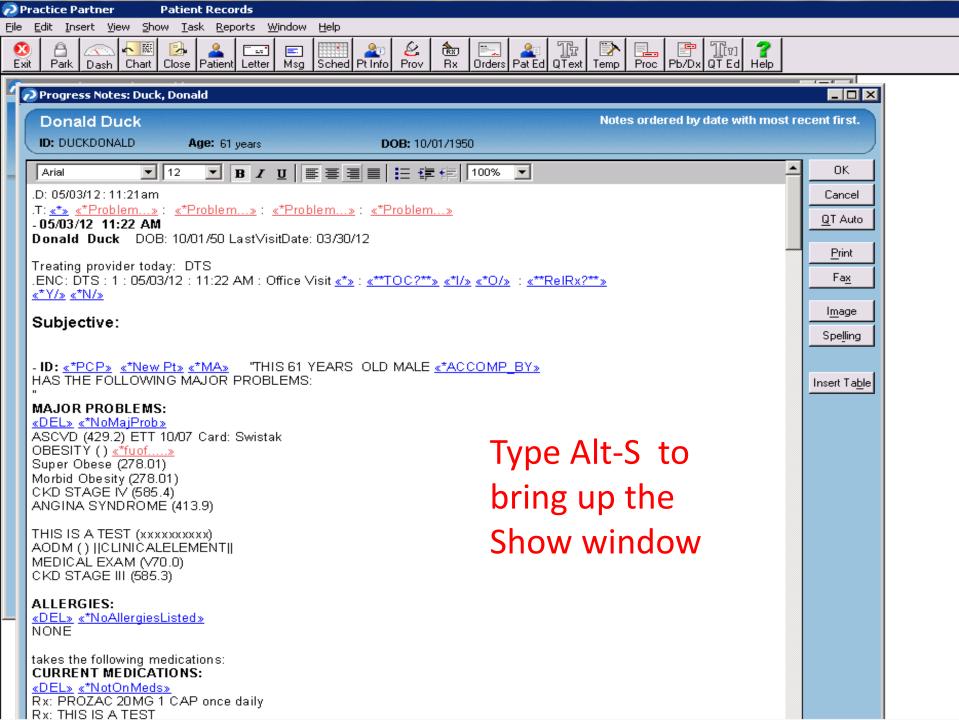
- Download and install AutoHotkey.
- 2. Right-click an empty spot on your desktop or in a folder of your choice.
- 3. In the menu that appears, select New -> AutoHotkey Script. (Alternatively, select New -> Text Document.)
- 4. Type a name for the file, ensuring that it ends in .ahk. For example: Test.ahk
- 5. Right-click the file and choose Edit Script.
- 6. On a new blank line, type the following:

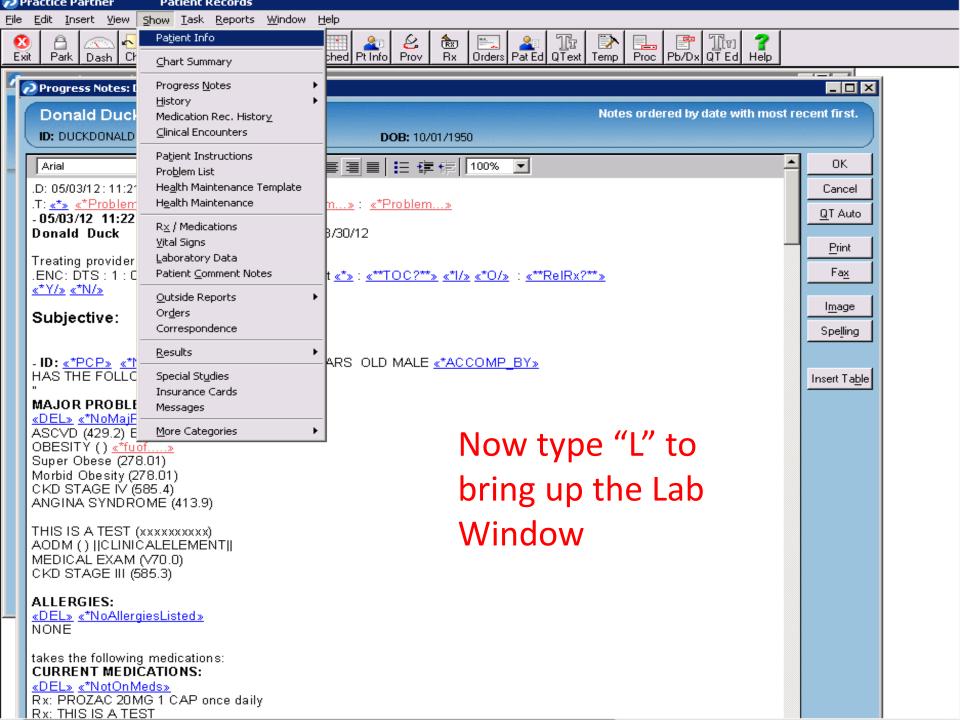


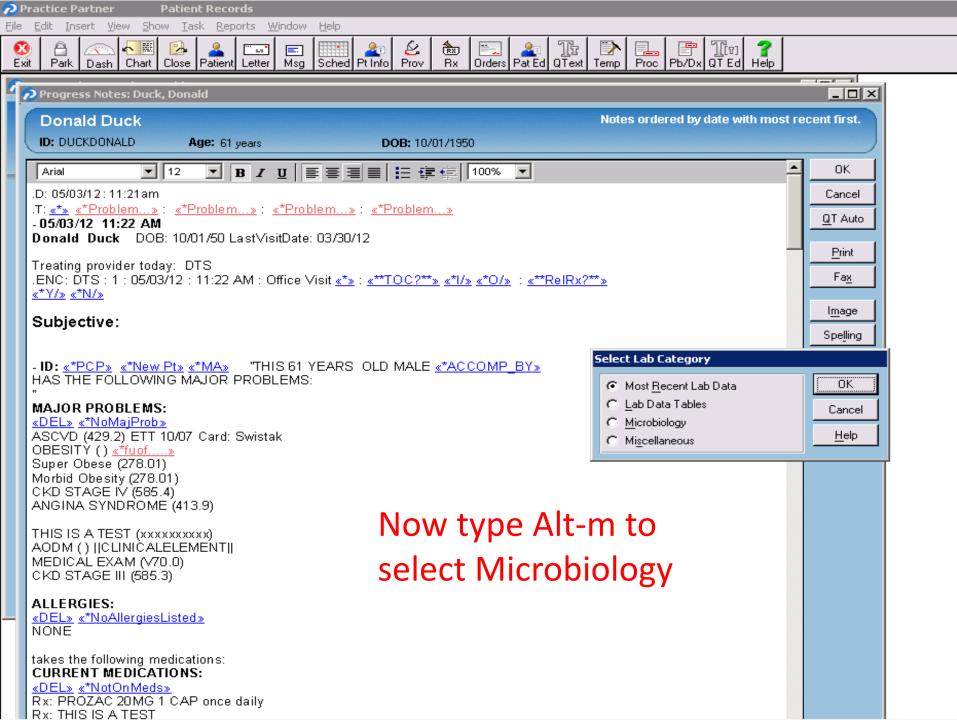


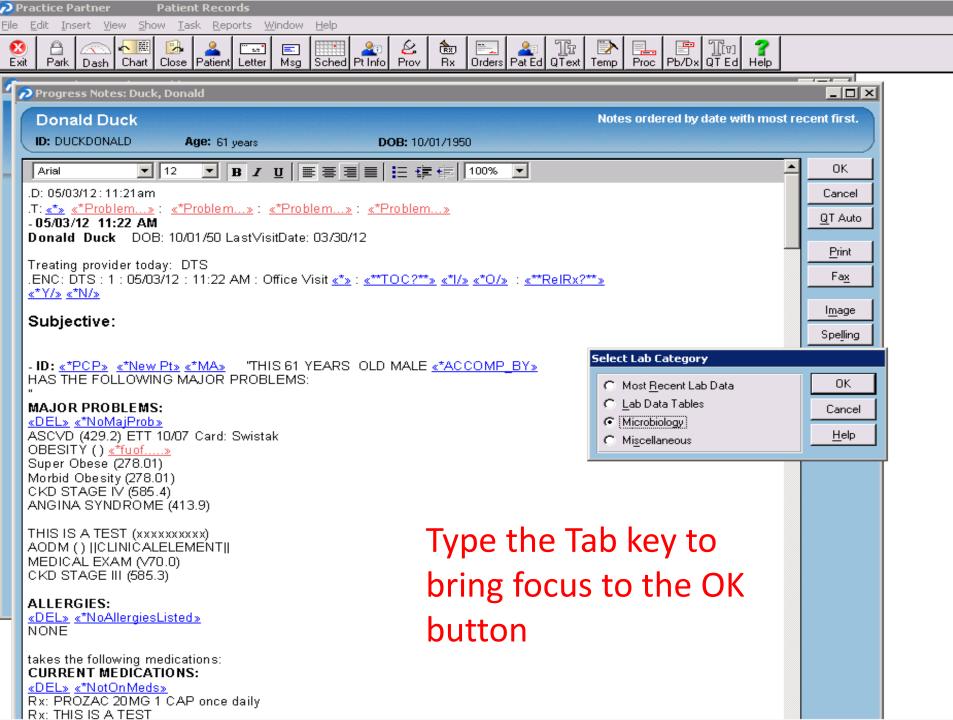
Adding New Functionality to PP

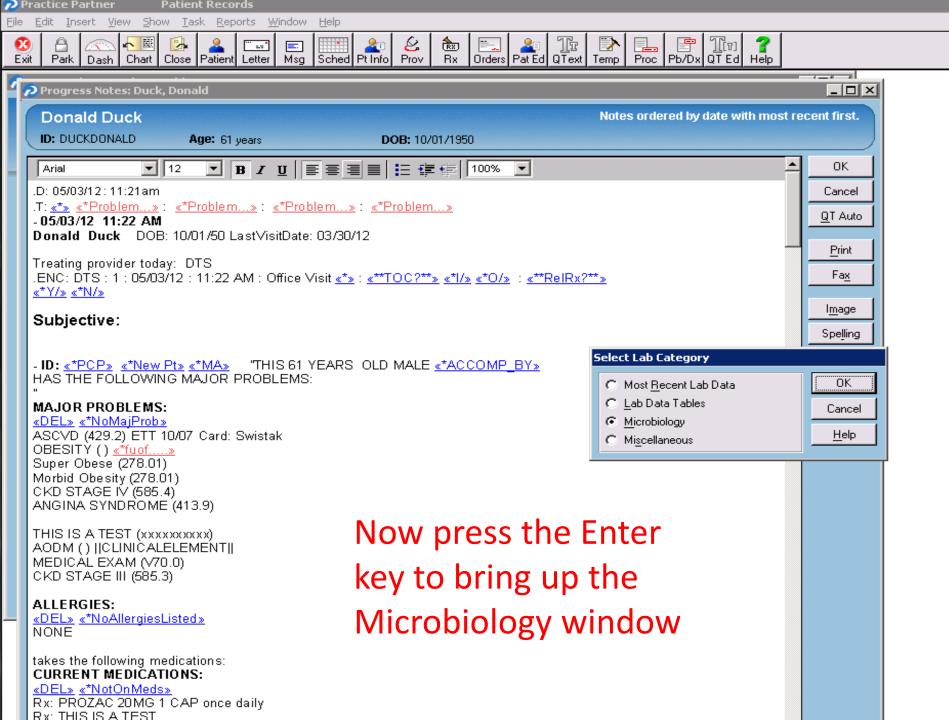
- An Example of a missing capability in PP is the ability easily to open a window to the Microbiology section of the chart from within a note. This was a request from an Infectious Disease specialist at a practice I recently visited.
- The next slides show how this would be done from the keyboard, using Practice Partner's built in hot keys.

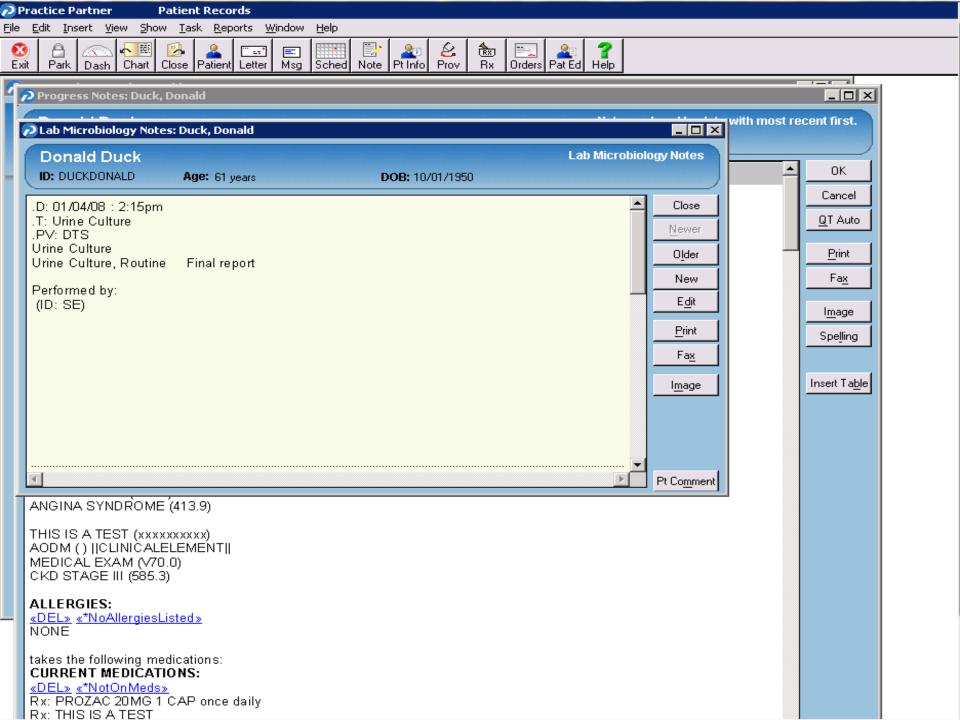












What Is Wrong with This?

- "Too many keystrokes" or "Too much clicking."
- "Hard to remember the key sequence."
- "I want to be able to see the Microbiology information as easily as I can see the Lab Tables or the Recent Lab."
- "It is distracting to have to go through all of that simply to see a culture result."

The Solution?

- Create an AutoHotKey Script.
- The keys to be pressed are: Alt-s L Alt-m Tab Enter
- Select a combination of keys to run this script: in this case, we will use Alt-Shift-y
 - (I originally wrote this tutorial using Alt-Shift-m, but I use that for something else in real life)
- Documentation on how to create scripts is on the AutoHotKey website.

C:\Documents and Settings\dons\Desktop\Bring up Micro.ahk - SciTE4AutoHotkey File Edit Search View Tools Options Language Buffers Help | X | B | B | X | い口 | Q 🐠 Bring up Micro.ahk 1 ; brings up the Microbiology window from within the note editor 3 4 ;06/10/11 6 #NoEnv ; Recommended for performance and compatibility with future AutoHotkey releases. SendMode Input ; Recommended for new scripts due to its superior speed and reliability. 8 9 SetWorkingDir %A ScriptDir% 10 #SingleInstance force 12+m:: 11 12 ! +m::: 13 Send !sl 13 Send !sl 14 sleep, 300 14 sleep, 30015 Send !m{Tab} 15 16 Send !m{Tab} Send {Enter} 17 Send {Enter} 16 18 Return 17 18 Return

What the script does

!+m::

! = Alt, + = Shift, m, :: = everything that follows is what the script does.

Send !sl

sleep, 300

Send !m{Tab}

Send {Enter}

Send Alt+s+l

Wait 300 milliseconds

Send Alt+m+Tab

Send Enter

Return

The Script is done

Editing Tools for the Note Editor

 The Practice Partner note editor can be made more efficient to use by adding macros to make editing easier by highlighting text to perform a variety of tasks such as capitalization, removing capitalization, quoting a section of text, cleaning up a line of text with extra spaces and commas, and adding symbols not on the keyboard

Editing Macros

- Alt-Shift-U
 - Converts highlighted text to UPPER CASE
- Alt-Shift-L
 - Converts highlighted text to lower case
- Alt-Shift-P
 - Converts highlighted text to Capitalize First Letter
 Of Each Word
- Alt-Shift-"
 - Quotes selected text

Editing Macros

- ..deg
 - Inserts the degree sign ° into text
- ..bul
 - Inserts an indented new line with a bullet
- Alt-Shift->
 - Inserts an arrow (=====>) to the right
- Alt-Shift-c
 - Cleans extra spaces and commas from highlighted text

Editing Macros

- Alt-Shift-d
 - Inserts <u>«DEL»</u> at the cursor (handy for deleting entire lines easily)
- Alt-Shift-m
 - Makes highlighted text "microscopic," by changing font to 1

Demo of Editing Features

Updating History Sections from within a Note

- The practice of using .K:end to update history sections of the chart (PMH, SH, FH) leads to messy, disorganized history sections, and is not liked by providers.
- You can use auto hot key to update these sections in an orderly way.
- Just edit the sections in your note, then press
 Alt-Shift-H to update the history sections

Demo Update History

PP Helper

- PP Helper is a collection of Auto Hot Key scripts written by Robert Pierce before he started working for McKesson deals with numerous annoyances such as pop-up windows that do not add much value, and also adds significant functionality to how Practice Partner works
- Not supported by McKesson or Tech Support

PPHelper Features

- Diagnosis Code and Procedure Code search "as you type" (autosearch)
- Operator Select window autosearch
- Provider Select window autosearch
- Prescription edit double click
- Message window operator autocomplete

PPHelper Pop-Up Killer

- "The spellchecking session is over."
- "The note will be printed after it is saved."
- "This will record that the patient takes no medication."

- Hotkeys: Win-9 90 day rx conversion, Win-D date GUI
- Demo in live system now

PP Helper

- Eliminates selected pop-ups
- Adds "search as you type"
- Double click prescription to edit it
- Win-9 to change 30 day prescription to 90 day prescription
- And many other features
- This link shows a demo of an early version
 - http://www.youtube.com/watch?v=MsqYRSwQrSE&fe ature=youtu.be

PPCalCode

- AutoHotKey Script created by Robert Pierce,
 MD
- Allows the addition of numerous functions to templates
- Enables "clickable markers" to be embedded in templates (sort of like quick text) that can do complex calculations with patient data, run programs, and many other things.

Example

†calc~tokg:||VITAL_WGT||‡

Starts with a dagger followed by "calc"

Ends with a double dagger

After the "~" is the name of the function, followed by ":"

Following the ":" are any parameters that the function needs

Example

- †calc~tokg:||VITAL WGT||‡
- When double clicked, the above marker will convert the patient's weight in pounds to kilograms, and the marker will disappear and be replaced with the weight in pounds.
- <u>tcalc~tokg:35 lbs‡</u> becomes: 15.91kg when double clicked.

Math

Does basic calculations.

- Non-HDL cholesterol: <u>†calc~math:||LAB<CHOLESTEROL>[-Date]||-</u> ||LAB<HDL-CHOL>||,0‡
- 165 on 03/15/2010
- Serum osmolality:

```
<u>+calc~math:</u>
(2*(||LAB<SODIUM>||+||LAB<POTASSIUM>||))+(||LAB<BUN>||/2.8)
+(||LAB<GLUCOSE>||/18),0‡
```

Serum osmolality:300

Date Calculations

The days since the BMI plan
 are <u>†calc~daysinceatt:||CLINICALELEMENT<BMI Plan>[-Date]||‡</u>

The days since the BMI plan are 561 day(s)

 The months since the test are †calc~mosince: | CLINICALELEMENT<Test> | ‡

The months since the test are 26 month(s)

Controlling the System with Run

Opens new Excel:

†calc~run:Excel.exe‡

Opens MyFile.doc is on the desktop:

†calc~run:C:\Documents and
Settings\username\Desktop\MyFile.doc‡‡

BMI Percentile

The patient's BMI %ile is «del»
 <u>tcalc~pedbmi:||VITAL HGT||,||VITAL WGT||,||PAT IENT AGE IN MONTHS||,||PAT SEX||</u>

The patient's BMI %ile is <u>«del»</u> 43%

Framingham Calculations

Framingham CHD: «del»

```
†calc~framCHD:||LAB<CHOLESTEROL>[-
Date]||,||LAB<HDL-
CHOL>||,||PAT AGE||,||PAT SEX||,||VITAL BPSYS|
|,||CLINICALELEMENT<HTN>||,||VITAL<Smoking>||

‡
```

Framingham CHD: «del» 5.6% on 03/15/2010

Ideal Body Weight

Uses formula of Devine for men, 50kg + 2.3kg/in over 5'. Uses formula of Robinson for women, 49kg + 1.7kg/in over 5'.

- Ideal body weight in pounds: «del»
 †calc~ibwlb:||VITAL HGT||,||PAT AGE||,||PAT SEX||‡
- Ideal body weight in pounds: «del» 160.6 lb

Instrumentation Feature: Adds Up Values

Epworth Sleepiness Scale

.CE: Epworth Sleep Scale: «del» †calc~total:A‡

Rate the *chance of dozing*:

```
Sitting and reading: «del» <u>tnone~A1,0</u>‡ <u>tslight~A1,1</u>‡ <u>tmoderate~A1,2</u>‡ <u>thigh~A1,3</u>‡

Watching TV: «del» <u>tnone~A2,0</u>‡ <u>tslight~A2,1</u>‡ <u>tmoderate~A2,2</u>‡ <u>thigh~A2,3</u>‡

Sitting inactive in a public place: «del»

<u>tnone~A3,0</u>‡ <u>tslight~A3,1</u>‡ <u>tmoderate~A3,2</u>‡ <u>thigh~A3,3</u>‡

Being a passenger in a motor vehicle for an hour or more: «del»

<u>tnone~A4,0</u>‡ <u>tslight~A4,1</u>‡ <u>tmoderate~A4,2</u>‡ <u>thigh~A4,3</u>‡

Lying down in the afternoon: «del» <u>tnone~A5,0</u>‡ <u>tslight~A5,1</u>‡ <u>tmoderate~A5,2</u>‡ <u>thigh~A5,3</u>‡

Sitting and talking to someone: «del»

<u>tnone~A6,0</u>‡ <u>tslight~A6,1</u>‡ <u>tmoderate~A6,2</u>‡ <u>thigh~A6,3</u>‡

Sitting quietly after lunch (no alcohol): «del»

<u>tnone~A7,0</u>‡ <u>tslight~A7,1</u>‡ <u>tmoderate~A7,2</u>‡ <u>thigh~A7,3</u>‡

Stopped for a few minutes in traffic while driving: «del»

<u>tnone~A7,0</u>‡ <u>tslight~A7,1</u>‡ <u>tmoderate~A7,2</u>‡ <u>thigh~A8,3</u>‡
```

Demo of Instrumentation Feature

http://www.youtube.com/watch?v=Jg0It04Vj
 W4

Bring in a Template

«DEL»||IF PAT_SEX = "male" {†calc~template:*USPSTF Male‡} ELSE {†calc~template:*USPSTF Female‡}||

USPSTF A and B Recommendations for Male Medicare Patients

Topic	Description	Grade	? For You?
AAA Screen	1 time US screen for AAA in men 65-75 who have ever smoked	В	<u>«yes» «no»</u> «done»
Alcohol counseling	Behavioral counseling interventions to reduce alcohol misuse in adults	В	«yes» «no»
Aspirin to prevent CVD	Men: age 45 to 79 years when the potential benefit due to a reduction in myocardial infarctions outweighs the potential harm due to an increase in gastrointestinal hemorrhage.	А	«yes» «no»
BP Screening	Screening for high blood pressure in adults aged 18 and older.	А	yes - every 1 - 2 years
Cholesterol screening	For men and women of Medicare age, every 5 years	A	«yes» «no»
Colorectal cancer screening	In adults, beginning at age 50 years and continuing until age 75 years. (every 10 years for colonoscopy)	A	«yes» «no»
Depression screening	In adults when support for diagnosis, treatment, and follow-up are available	В	«yes» «no»
Diabetes screening	In adults with sustained BP greater than 135/80 (interval of every 3 years suggested)	В	«yes» «no»
Diet counseling	Intensive behavioral dietary counseling for adult patients with hyperlipidemia and other known risk factors for cardiovascular and diet-related chronic disease	В	«yes» «no»
Tobacco counseling	Ask all adults about tobacco use and provide tobacco cessation interventions for those who use tobacco products	Α	«yes» «no»
HIV / syphilis screening	The USPSTF strongly recommends that clinicians screen for (HIV) all adults at increased risk for HIV infection and screen persons at increased risk for syphilis infection.	А	«yes» «no»
Obesity screening	Screen all adult patients for obesity and offer intensive counseling and behavioral interventions to promote sustained weight loss for obese adults.	В	«yes» «no»
STI counselling	High-intensity behavioral counseling to prevent sexually transmitted infections (STIs) for all adults at increased risk for STIs.	В	«yes» «no»

Conclusion - PPCalCode

- Only a few of the functions in PPCalCode have been shown today.
- Within the PPCalCode framework, an unlimited number of additional features can be added.
- This free and open source project offers a wealth of additional features that can be added to Practice Partner Templates

PPCalcode demo

http://www.youtube.com/watch?v=qCamNUP
zr9w

Conclusion - AutoHotKey

- There are many, many ways you can improve your workflow, speed your note completion, and control your computer using keyboard macros
- Many examples for PP are available on the EMR Village File Sharing Site
- AutoHotKey scripts allow you to customize your EMR in ways McKesson never dreamed of, and it is not terribly difficult to learn.

And, thank you

QUESTIONS?

My Slides (not on the wristbands)

- http://tinyurl.com/PP-AHK
- http://tinyurl.com/SCR-OCR
- http://tinyurl.com/QT-Temp
- http://tinyurl.com/DTS-ATR