

## Instructions for the FPM ICD-9 Reference for PDA (Palm version)

This PDA file was created to enhance the *FPM* Long List and to make it more portable and usable at the point of care.

The program used to create the *FPM* ICD-9 Palm file is called HandyShopper. It was chosen because it is freeware, created by Christopher Antos, and it has several features that make it ideal for ICD-9 coding:

- HandyShopper uses a filtering mechanism for searches. In other words, when you enter a search term using HandyShopper and the ICD-9 database, the list of more than 2,400 codes is shortened to only those matching the search. Thus, *all* the results for a search are listed at once, making it easier for you to quickly choose the most relevant code.

- HandyShopper's filtering function is extremely fast. The filtering is almost instantaneous on Pocket PCs.
- ICD-9 entries can be customized by the user, including user-defined shortcuts to frequently used codes.

### Installation

1. The HandyShopper program for Palm OS can be downloaded from the HandyShopper site at

<http://home.comcast.net/~chrisant/hs3/hs3.htm#Download>

There are also links to this download at the HandyShopper Wiki page at

<http://www.ggaub.com/hswiki/tiki-index.php>

Follow the instructions for installation of HandyShopper in the included 'readme' file.

2. Install the *FPM* ICD-9 Palm file onto your device. The full file name is HS2\_FPM\_ICD-9\_Palm.PDB.

3. There are also optional icon files included with the download. Icons can be modified using Chris Antos' Icon Manager program (also freeware) which can be downloaded from the mytreo.net site at

<http://mytreo.net/downloads/icon-manager.308.html>

Using the Palm OS version

Figure 1 shows what the ICD-9 program looks like in the main Applications screen. Tap the HandyShpr icon to open the program. The Database screen is shown in Figure 2. Tap "FPM ICD-9 Palm" to open the file.



Figure 1



Figure 2



Figure 3

The view in Figure 3 is called the List View. Each entry in the list has a bullet in front of it, and some entries have an attached note (accessed by tapping the yellow note icon at the far right of the entry). There are over 1,800 entries in the ICD-9 file, with over 2,400 ICD-9 codes. Please note that there are many features in the HandyShopper program designed for the list/shopping function. **In general, the "All" button should remain selected when using the ICD-9 file.** Additional information can be put into notes attached to each entry. This is accessed by tapping on the note icon (yellow rectangle) at the far right of the entry.

### Searching/filtering

To search or filter the ICD-9 list, tap the magnifying glass icon in the lower right-hand corner of the screen. This opens the search box (Figure 4, blue arrow). Type any search phrase into the box. Figure 5 shows the results of typing "abd." The list of more than 1,800 items is filtered down to 13 ICD-9 entries. HandyShopper searches through every entry in the List View and every Note for any word beginning with the letters typed in the Lookup

field, and filters the entire list to only entries that contain words beginning with those letters. Searches are not case-sensitive, so all search terms can be entered in lower case.

To clear the search, tap the small black arrow just to the right of the Lookup field. Tapping the magnifying glass icon also clears the search term, but saves it in memory, so that the next time you tap the magnifying glass icon, the same search will appear.

To speed searches, code entries have been modified to keep closely related codes in the notes section of each entry. For example, in Figure 5, "Abdominal pain" shows up as "789.0\*" – **the star indicates that the code requires another digit**, which can be found in the note. Tapping the yellow note icon at the right of the "Abdominal pain" entry brings up the screen in Figure 6, from which the specific code desired can be chosen. Many similarly related fourth- or fifth-digit codes are grouped in this way. Without grouping related codes, a search with the term "abd" would produce a list of 45 entries; by putting related codes in the Note section, the search result is shortened to 13 entries, thus easing your ability to find a code within a short, easily viewable list. Also note the font boxes in the lower right-hand corner of the screen. You can select a different font size for all notes in the ICD-9 file by tapping a different font icon. Tap "Done" in the lower left-hand corner to close the screen.



Figure 4

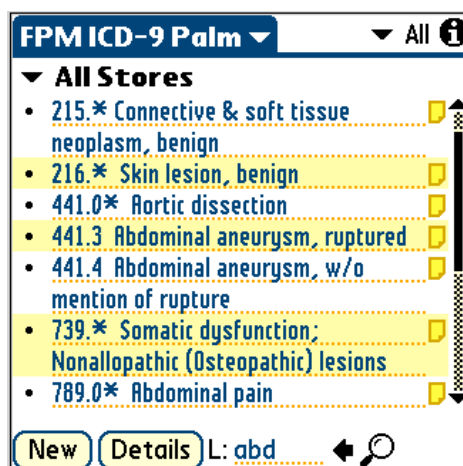


Figure 5

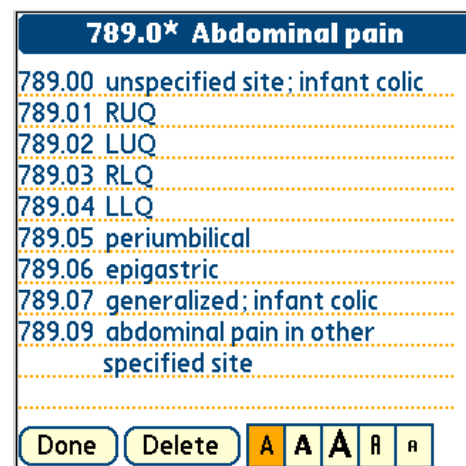


Figure 6

The Note section allows for a variety of alternate terms and abbreviations to be entered for a single item. For example, the code V06.1, "Immunization, Diphtheria-tetanus-pertussis, combined," also contains the abbreviations "DTaP," "DPT," "DTP," "Tdap" and "Dtap" in the entry line and its note. Searching for any of these abbreviations produces a search result that includes V06.1. Additional shortcuts or phrases can be added to any entry. Because HandyShopper considers a period or a hyphen to indicate the start of a new word, a hyphenated version of most long words starting with "hyper-" or "hypo-" or "hyperpara-" has been put into the file. For example, rather than typing "hyperparathyroidism" to find its code, only "para" is typed in the search box (Figure 7). This brings up a short list that includes "252.0\* Hyperparathyroidism." Tapping on the note icon at the end of the entry (or on the generic note icon to the right of the Need button near the bottom) opens a screen (Figure 8) from which the desired code can be chosen. Note that the extra hyphenated search term, "hyper-parathyroidism," appears below the line. Most such extra terms are placed at the bottom of the note section.

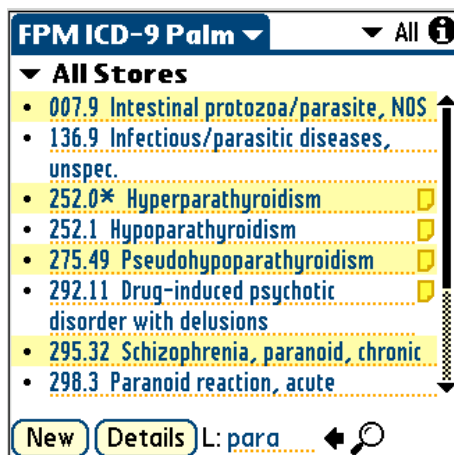


Figure 7

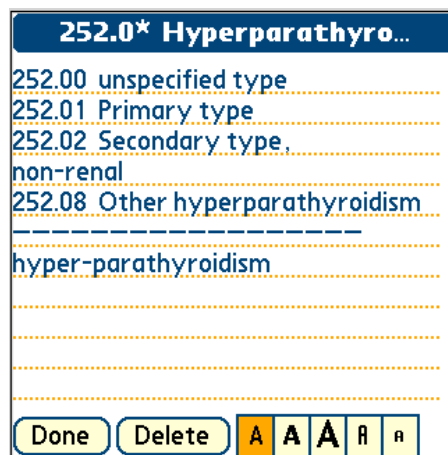


Figure 8

Similarly, to search for hyperkalemia, typing “kal” will work just as well as typing “hyperkal.” A list of standard shortcuts used in this file (such as “HTN” or “CHF”) is included as an entry in the Help section at the top of the list.

An additional benefit is that you can subfilter the ICD-9 list into category sections by tapping on the “All Stores” title (Figure 9, blue arrow). This activates a drop-down list, showing the diagnostic category headings from which you can choose.

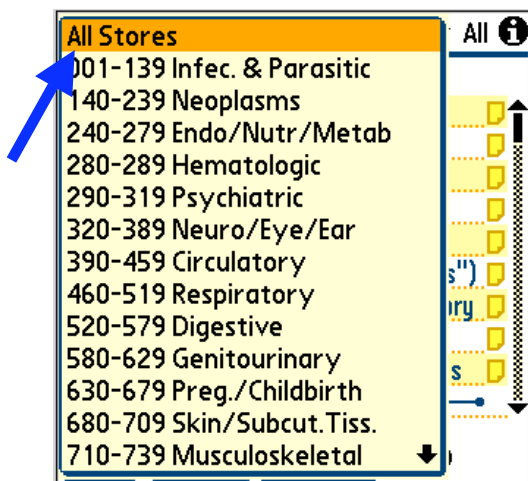


Figure 9

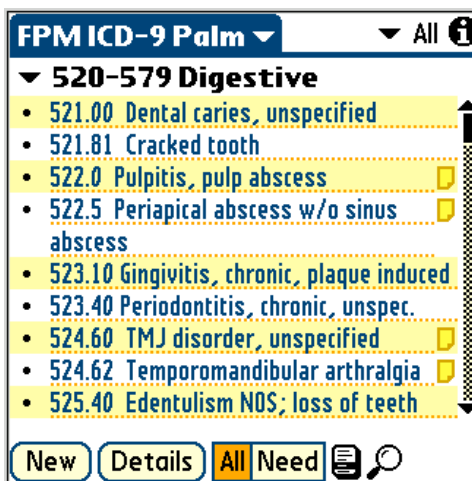


Figure 10

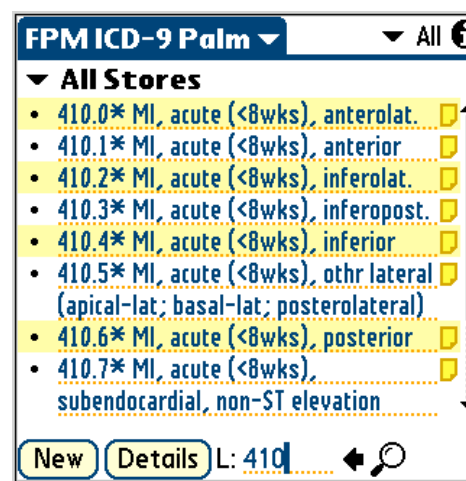


Figure 11

Scrolling down and choosing the category “520-579 Digestive” filters the entire list to only codes in that range (Figure 10). Tapping on the **Stores** heading and choosing “All Stores” (top of Figure 9) returns you to the entire list of entries. The subcategory list can be useful if you want to scroll through several different related codes within a diagnostic category. However, this can also be done by typing the first few numbers of a code in the search box. For example, using the search term “410” produces the results seen in Figure 11. However, using the search term “AMI” (abbreviation for acute myocardial infarction) would produce almost the same results.

### Bonus: Medicare preventive care

Because billing for preventive care for Medicare patients is somewhat complicated, I have added a reference section with instructions for billing such items as Pap smears, PSA tests and bone-density scans. This is listed at the top of the file as “Medicare Preventive Billing,” but you can also use the Categories tab at the top to access it. The Categories tab is shown in Figure 12a (blue arrow). When tapped, the Categories drop-down list appears (Fig. 12b). Selecting “Medicare prev” restricts the list to only entries concerning Medicare preventive med billing (Fig. 13). Selecting “All” returns you to the complete list. The “Unfiled” category is the default for only the ICD-9 codes. The first entry in the “Medicare prev” section, “Billing Medicare for Preventive Care,” contains some general principles (Figure 14). The other entries contain specific information about permitted **frequency** of billing for that test or tests, **who is covered**, and what **ICD-9** and **HCPCS/CPT** codes to use.

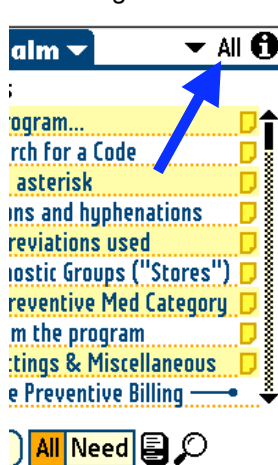


Figure 12a

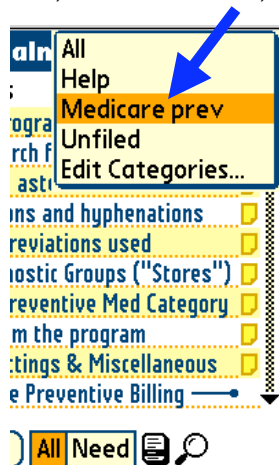


Figure 12b



Figure 13

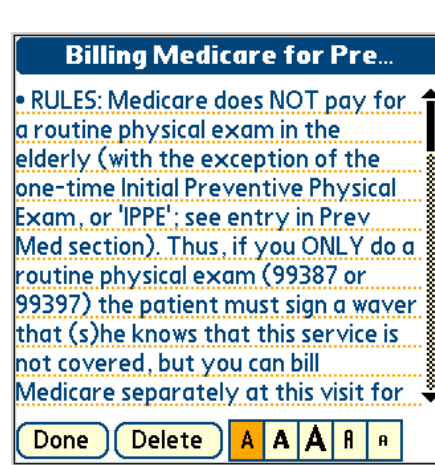


Figure 14

## Adding entries

The simplest way to add an entry is either to tap the “New” button at the bottom left-hand corner of the screen, or to tap-and-hold on any entry with your PDA stylus. (The cursor must *not* be inside the entry when you tap-and-hold, or this won’t work.) For example, if you wish to add ICD-9 code “V01.4 Contact or exposure to Rubella,” you could tap-and-hold on a nearby code, such as “V01.71 Contact or exposure to varicella.” The menu that pops up is shown in Figure 15. Choosing “Copy item” creates an exact copy of the entry, which can then be modified. The advantage of this method is that the “Category” and “Store” are already preselected to match the copied item.

If you press the “New” button, then subcategories must be assigned by selecting the “Details” button at the bottom left-hand side of the List View screen. Figure 16 shows what results from pressing the “New” button (red arrow). If there are no search terms in the Lookup field, the entry will be blank. Note that by default, new items created with the “New” button begin with any text present in the Lookup field. Since “V01” was in the Lookup field, this text has automatically been added in Figure 16 (blue arrow). When this entry is selected, tapping the “Details” button at the bottom of the screen brings up the screen seen in Figure 17. Tap the “Stores” button (Fig. 17, blue arrow) to check off the correct diagnostic category. The category (upper right-hand corner) is ‘Unfiled’ by default.

You should be aware that this program was designed as a checklist/shopping program, so it has some features (“Aisle”, “Checkout”, “Best Buy”, “Total”) that do not relate in any useful way to the ICD-9 file. However, some users might wish to explore these and create their own files for other uses. I have personally found HandyShopper to be outstanding to use as a To-Do list, and the program allows you set alarms as reminders.

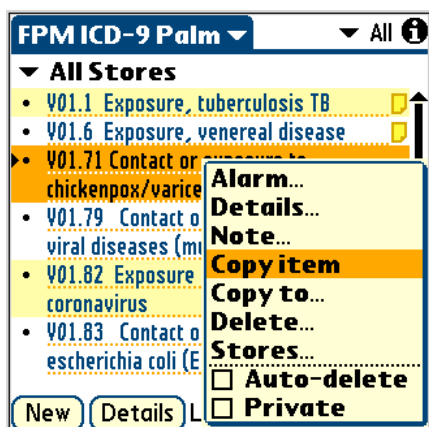


Figure 15



Figure 16

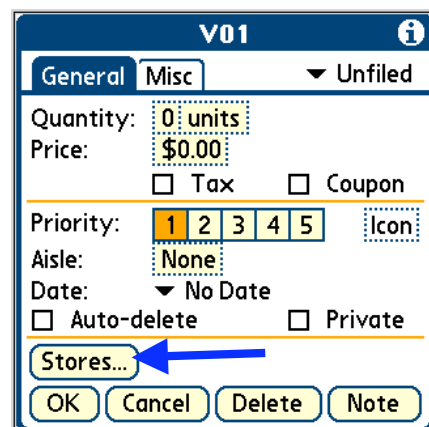


Figure 17

## Beaming the program and file to others

If you would like to share this file with friends and colleagues, you need to follow two steps:

First, you must beam the program. Go to your 'Applications' screen (figure 18), choose the 'App' drop down list in the upper left-hand corner (Fig. 19) and choose 'Beam'. This produces the screen shown in Fig. 20. Select the HandyShopper program and press the 'Beam' button.



Figure 18

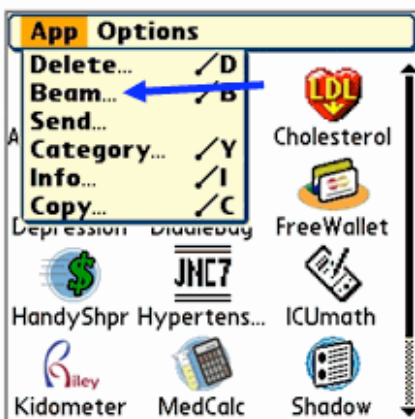


Figure 19

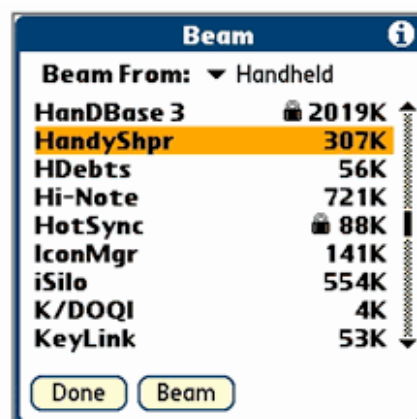


Figure 20

program by tapping the Database icon (blue arrow in Figure 21a) and then select “Databases...” from the popup



list that appears (Fig.21b). You can also reach the Database screen by doing a Palm upstroke plus the letter 'e'. This brings you to the screen shown in Fig.22. To beam the ICD9 file, tap the small black triangle to the right of the file (red arrow in Fig.22). This produces the drop down list shown in Fig.23. Select 'Beam' and the ICD9 file will be beamed to your colleague.

Note that you can view HandyShopper files stored on your memory card by tapping the 'Cards' button in the lower right hand corner of the screen.



Figure 21a



Figure 21b

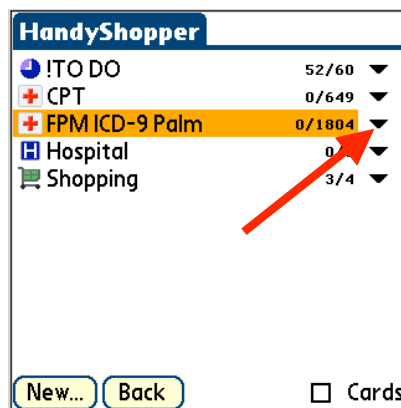


Figure 22

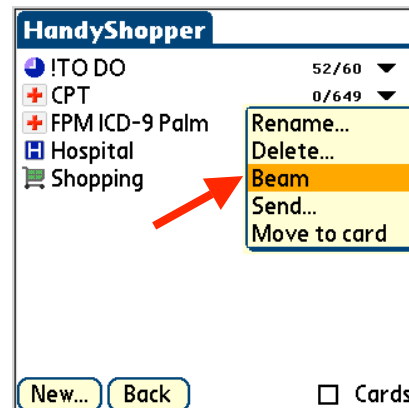


Figure 23

#### Questions and answers

**Q. Can the program be modified to trim off the shopping part and thus be specifically designed for medical use?**

**A.** No. The programmer has had many offers to do this from many sources and has refused. The program must remain exactly as is. The upside is that it remains free.

**Q. Can I run the program from my memory card?**

**A.** The program and databases will run well off a memory card.

**Q. Can you put the entire ICD-9 coding system into a PDA file? Wouldn't this make the ICD-9 file more useful?**

**A.** Yes, it can be done, and no, it would not necessarily make it more useful. The ICD-9-CM system has more than 12,000 diagnostic codes, and this would swell the database size to over 1.5 MB. That, in turn, would make the search function run intolerably slowly for Palm OS users (about 10-15 seconds per search). Also, there are simply too many codes to make such a file useful. For example, had I not grouped "abdominal pain," "abdominal mass," "abdominal rigidity" and "abdominal tenderness" into four-digit starred entries with the fifth-digit codes listed in the note sections, using the search "abd" would return 45 entries – and this is for a database with ~2,400 codes. Expanding the database to more than 12,000 codes could result in a filtered list of almost 200 entries for a simple search. PDAs have a limited amount of viewable screen area, which necessitates that searches use some type of sequential narrowing of focus to limit the amount of information on each viewable screen. Using the full ICD-9 set with this program would not be practical.

**Q. Where can I learn more about the HandyShopper program?**

**A.** Details about other aspects of the HandyShopper program can be found online at the HandyShopper Wiki home page at: <http://www.ggaub.com/hswiki/tiki-index.php>

If you have any other comments, questions or suggestions, please feel free to e-mail them to me or [fpmedit@aafp.org](mailto:fpmedit@aafp.org)

Robert M. Wolfe, MD, FAAFP  
Associate Professor  
Department of Family Medicine  
Feinberg School of Medicine, Northwestern University, Chicago  
and Evanston-Northwestern Healthcare, Evanston, Ill.  
[rmwolfe@gmail.com](mailto:rmwolfe@gmail.com)