

# Excellent WordPress performance isn't easy.



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**M**any businesses pay a premium for managed WordPress hosting. Even good web designers might be shocked to realize it's possible to achieve sub-second load times with free WordPress themes and free plugins on cheap, shared hosting.

**Free and cheap** aren't synonymous with sloppy and bad. We admit bad hosting does exist. It has lowered expectations for what a web host should deliver. Plus, buzz words like *CDN* and *the cloud* have many site owners believing optimal performance is not achievable without them.

**We say, "Hooey!"** Testing discipline is what's required. Setting self-imposed goals for web performance and recording experiments helps us know the best choices.

**In this report,** we show how to achieve the assumed "impossible" goal of speed – and still have a website look attractive. We're talking about efficiency and quality. ■



▲ Bota WordPress theme is a responsive design so it adapts to fit desktop, mobile, and tablet devices.

Published by **PagePipe**

100 East Bluff Street  
Palouse, Washington 99161

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# So what? Why should I care?

**T**his report introduces how we customized the free Bota WordPress theme. This theme is our foundation for producing a website for services at the Palouse Health Center.

**One of the biggest concepts** shown in this report is how we communicate our choice of a warm color palette. Color palettes are the primary communication device for a website’s “look and feel.” A unique image color-extraction tool helped keep consistency when we selected background and type colors.

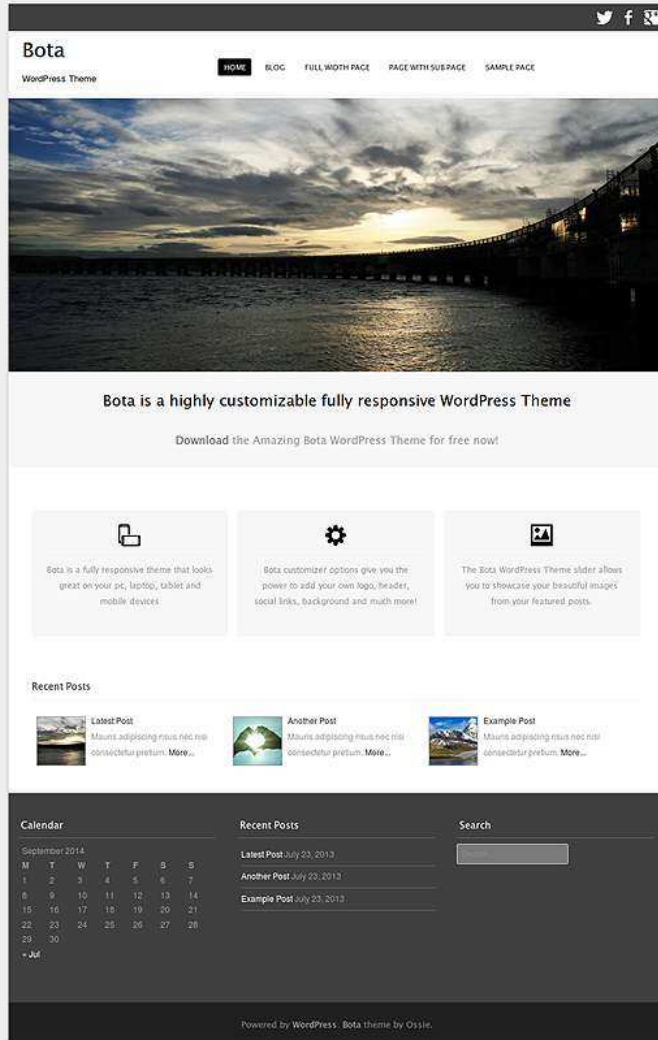
**We always set site goals.** We wanted warm, rural images with depth-of-field lens effect for mood. Besides color, lighting in these images needed to be consistent.

**We show how we found** free plugins and royalty-free, legally-unencumbered stock images. We wanted to achieve sub-second page load times using low-cost hosting. That’s usually considered impossible with WordPress.

**Besides our usual audit** of Home page performance, we talk about surprise discoveries of speed benefits in the theme and plugins we chose.



# About the free Bota WordPress theme.



**C**reated in 2013, **Bota** is a free, responsive and customizable WordPress theme from Template Express. You can upload a logo, custom header, and background tile.

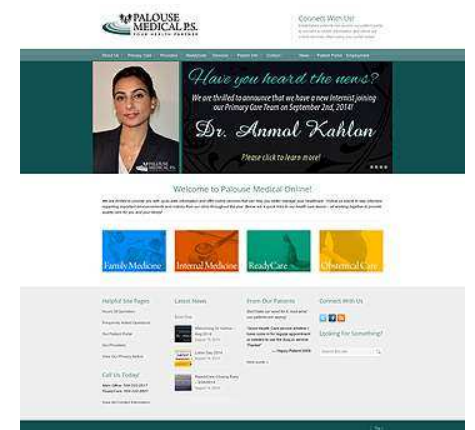
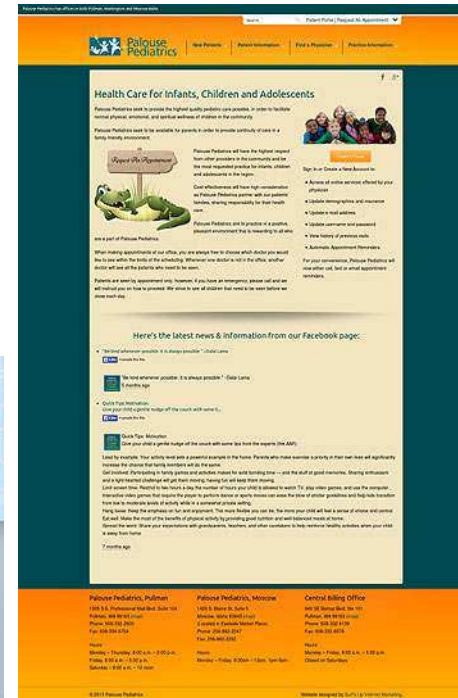
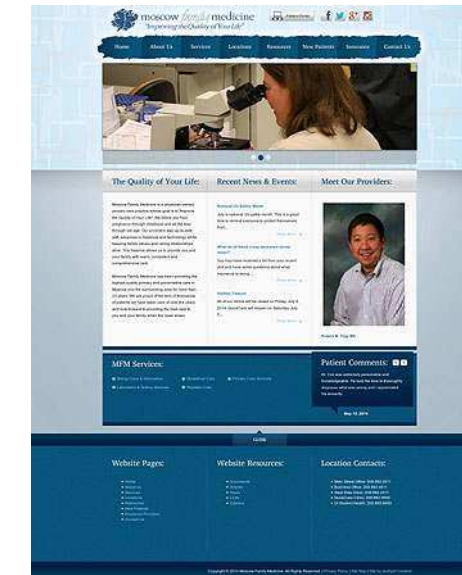
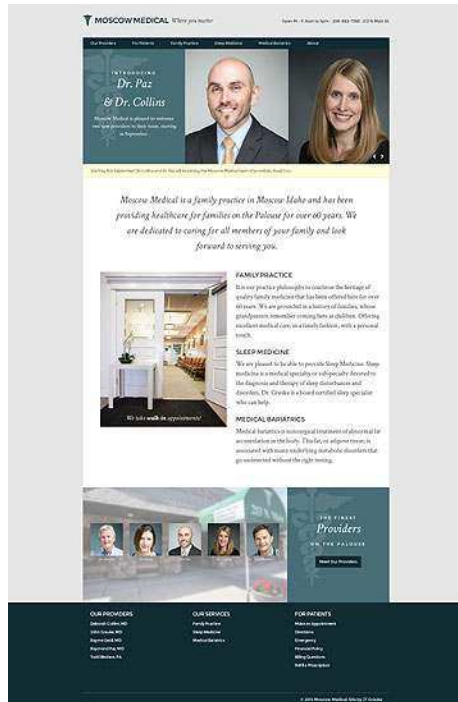
**Three featured images** – when set on separate Bota posts – will appear on the home-page image slider. Labeling the category and slug name as “Featured” is the only rule.

**There are also three template layouts:** default (which has a sidebar), custom home page, and full width text page. To add variety and interest to the site, we used all three templates in the design.

**Most of the customization** to the theme concerned changing typographic elements and CSS colors to harmonize with the selected images. We also made the site pageloads fast – even sub-second with the browser cache primed.

**Sub-second page changes** feel seamless to website viewers. No one wants to wait for slow loading pages. It’s interesting that Template Express doesn’t even mention the potential of this theme being fast. ■

# Samples of other local medical web screens.



Looks like teal is a popular regional medical website color. We want to “feel” friendlier than that. And we don’t want cheesy, smiling people. We want to look a little more rural and country. ■

# Our choice: a warm color palette.

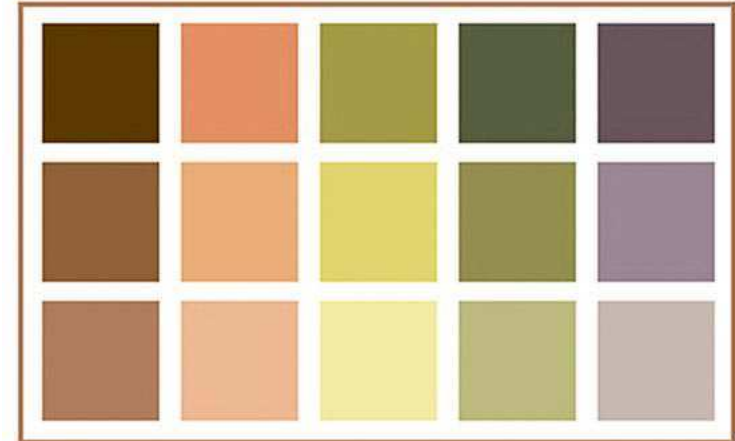


**Mild  
Comfy  
Sunny**

**We decided on a warm color palette.** This was important because it would be our guide in selecting royalty-free stock images.

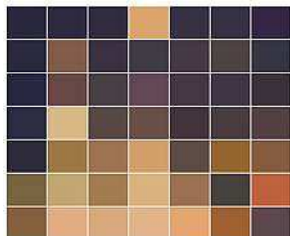
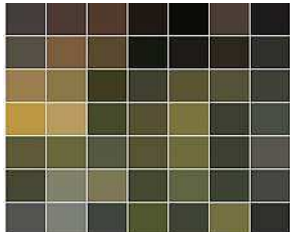
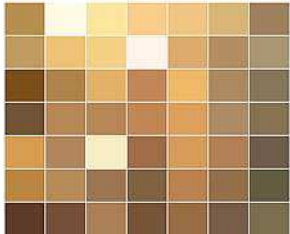
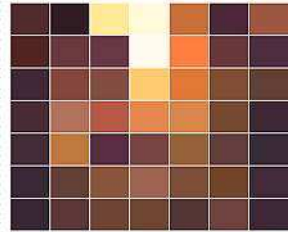
**Warm is a feeling.** But we also knew the subject matter needed more than just a common feeling, it needed a style. Our instincts said to search for mood photography that was definitely rural. ■

R	G	B	HEX
121	63	13	#793F0D
172	112	61	#AC703D
195	142	99	#C38E63
228	153	105	#E49969
229	174	134	#E5AE86
238	197	169	#EEC5A9
110	118	73	#6E7649
157	151	84	#9D9754
199	195	151	#C7C397
180	168	81	#B4A851
223	210	124	#DFD27C
231	227	181	#E7E3B5
132	109	116	#846D74
183	166	173	#B7A6AD
211	201	206	#D3C9CE



▲ Examples of warm color palettes.

# Warm, rural with depth-of-field lens effect for mood.



**H**orizontal photos are best for banners and sliders. Having sunlight in them and an out-of-focus, depth-of-field lens effect would help create a warm mood. The images also needed colored borders or edges on all four sides. Not white edges blending with the background.

**Our image research was extensive.** We searched all the free photo databases we were aware of. Out of thousands of photos we viewed, we selected 25 we thought would work.

**The images were then processed** online using a color extraction tool ([www.cssdrive.com/imagepalette/index.php](http://www.cssdrive.com/imagepalette/index.php)). There are at least seven free color-extractor tools online. For this job, cssdrive would provide what we wanted.

**We needed to see many colors,** not just the top 10. We also needed a “big picture” comparison to see how a combined palette might be leaning. It turned out because of this test that many images were not compatible. We narrowed the number down from 25 to these seven shown on this page and the next. ■

# Light is an important image component.

**W**e see from the **sampled** colors how the final images complement each other and form a site-wide color harmony. This prevents jarring color effects from happening from page to page. The site then feels seamless to visitors.

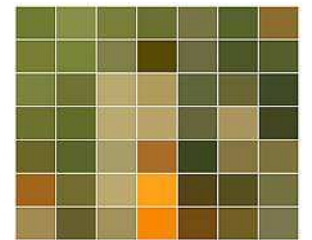
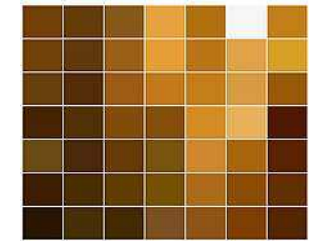
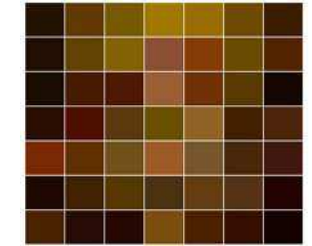
**The rejected images had too** much bright grass green or too much sky blue or white snowy peaks. While those are part of a “natural” color palette, they are not included in a “warm” one. Our eyes can trick us.

**The processed color scheme** caused the image deviation to pop out. Then it was plain. Color becomes more granular and not associated with objects. Judgment is then detached from visual cues that alter our perspective.

**This method achieves image continuity.** While this seems like a lot of work, it’s evident the results are better than guessing. After searching through so many images, why not test the last few to be certain they all fit? ■

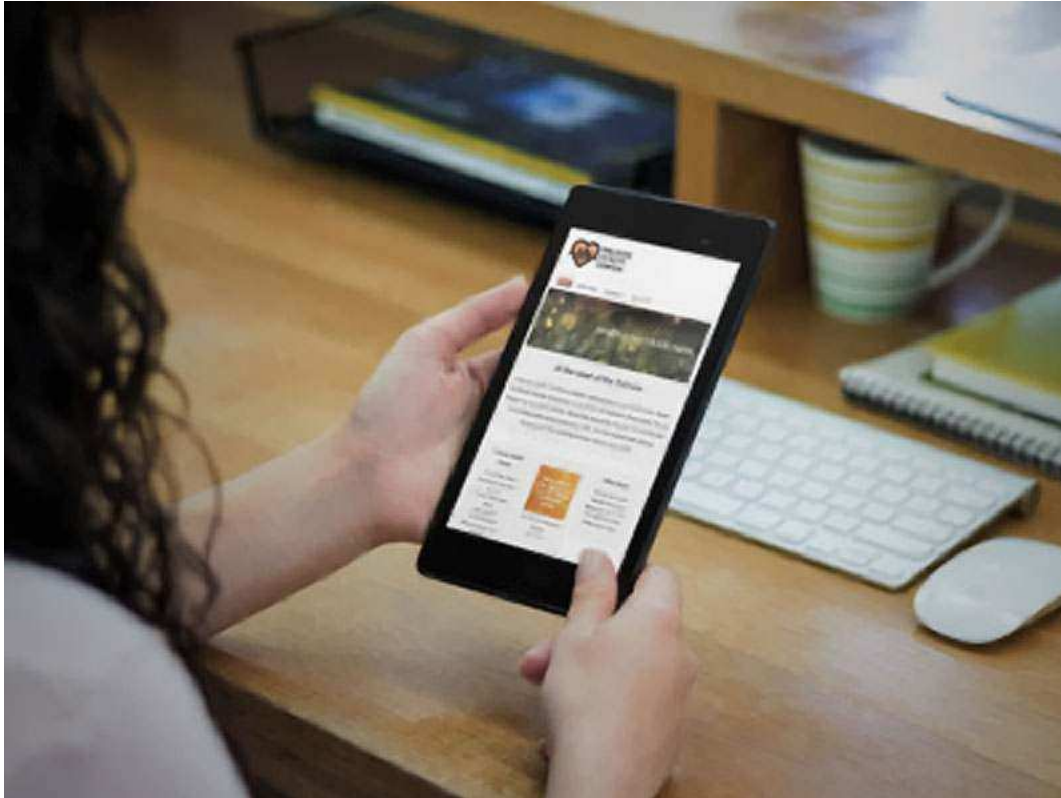


▲ **We can't overemphasize** the importance of good imagery for this site. The images carry most of the communication weight because the site content is light and informational. The text is not there to entertain.





# The colors selected for text and backgrounds.



▲ Because of our image selection method, all the colors used were guaranteed to enhance and coordinate with the royalty-free images.

- header bar #956865 **lavender**
- logo #E0936A **salmon**
- title text #3D2837 **dark grape**
- signage #DA9B32 **golden-tan**
- top footer #6E7649 **greenish-gray**
- bottom-footer #5C3901 **brown**
- accent #FFE183 **corn meal**
- body text #333333 **dark gray**
- paper #ffffff **white**
- background #EEEEEE **light gray**

# Never justify type on the web? Why?

**J**ustifying type on the web makes big holes in blocks of text that interrupt reading and make the text block uneven.

**Justifying text** – especially on the web – means spreading out the words on the line to span the whole column. The result is big gaps between the words. When these gaps line up, they form “rivers” of blank spaces. Text is for reading. Sacrificing readability for crisp edges between columns is a poor choice.

**Browsers lack the features** of page layout programs for print media. On the web, justification only increases the spacing between words. CSS does have a *hyphens property* for splitting words, but hyphenation alone wouldn't make justified text acceptable. Not all browsers support hyphens.

**Justified text is hard** to read and just bad web typography. ■



▲ The Home page on a large desktop screen.

## Home Page Specifications

Yslow grade 95 A

Theme Bota

Zip folder size 187k

Decompressed 322k

Loadtime

cache cleared 1.12 seconds

cache full 691 milliseconds

Server

Shared Linux Apache - No CDN

Page weight

cache cleared 238.2k

cache full 3.6k

Components 22

Plugins

Disable Title

Simple Google Map

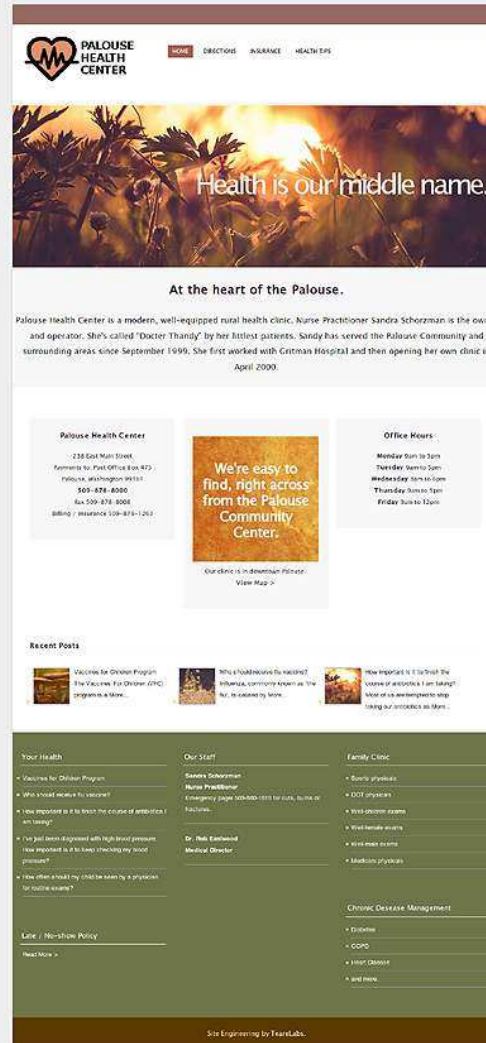
Smooth Page Scroll to Top

Fonts

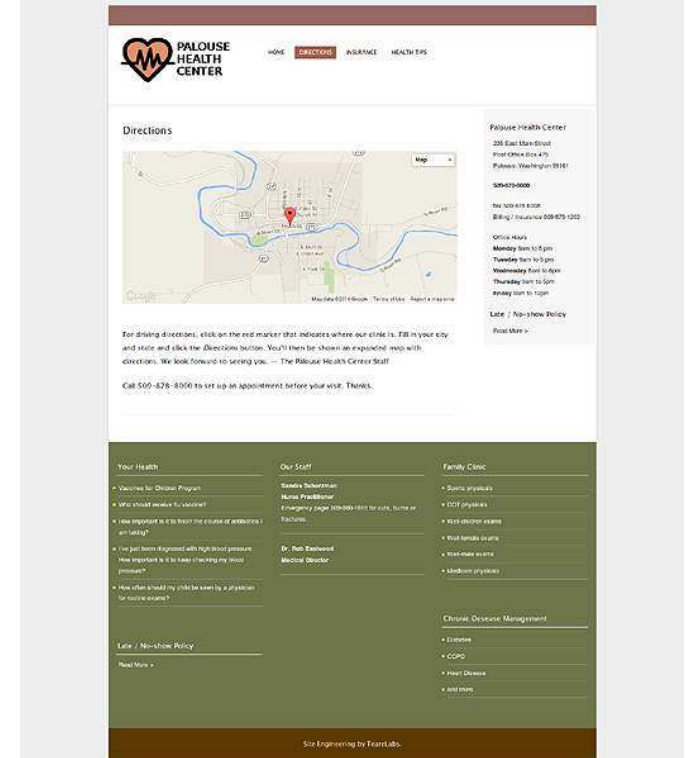
Lucida-sans and sans-serif

default weightless browser fonts.

## HOME



## DIRECTIONS



# INSURANCE

# LATE / NO SHOW POLICY

## Back-to-top Buttons

**Plugin file sizes** for back-to-top buttons are all over the map. It's worth shopping around. We settled on "smooth-page-scroll-to-top" – page weight only 3.4k compressed.

**HTML anchors** is how we used to make back-to-top buttons. Today, that seems too “jolting” to users. The plugins now use fancy CSS coding to get a smooth ride back to the top instead of a jump.

**If a site is running** on the heavy side, we just put the following code in a footer text widget:

```
<a href="#"> Back to top ^</a>
```

No anchor is needed – a beautiful weightless solution.



# Three WordPress plugins we used on this website.



▲ We've tested Google Map plugins that add as much as 500k to every page of a website. The Simple Google Maps plugin we used with the Bota theme adds 238k just to the page the map resides on – no others. This benefit was not advertised in the plugin description – a speed bonus.

## Disable Title

With this plugin, you can do title suppression for the home page, category, archive, or detail pages. We didn't want any titles for our web design. There are code solutions but this is fast and light.

## Simple Google Map

This plugin will embed a Google map using a shortcode or as a widget. You need the latitude and longitude (just Google it!) and the address of the business. You also specify the type of map. In our case, the type is "ROADMAP." This plugin is only activated on the page the map resides on. This adds 238k to just that page's weight after gzip compression. Other Google Maps plugins can add that weight globally to all pages on the site. This is an attractive feature.

## Smooth Page Scroll to Top

A lightweight 3.4k button appears in the bottom-right screen corner during long scrolls. When tapped or clicked, it makes a nice animated return to the page beginning. ■