



Memorial Sloan Kettering  
Cancer Center

# Using Drupal to create a digital patient education experience at Memorial Sloan Kettering Cancer Center (MSK)

Kermitt Ramirez  
Jacob Rockowitz

[www.mskcc.org/pe](http://www.mskcc.org/pe)



# About Us



**Kermitt Ramirez**

*@silentkerm*

- Web Specialist for the Department of Patient and Caregiver Engagement at MSK
- MSK employee since 2007



**Jacob Rockowitz (Big Blue House)**

*@jrockowitz*

- Drupal developer and software architect
- Maintainer for the Drupal 8 Webform module
- Consultant for MSK since 1999



# Today's Session

## Goals

Provide a history of MSK's transition from analog educational resources to dynamically generated, multilingual PDFs

Explore various technologies used and methods applied to create a digital patient education experience for patients and caregivers and an admin UI/UX for health education content editors





Memorial Sloan Kettering  
Cancer Center

# History



# History

## Patient and Caregiver Education

At MSK, the Department of Patient and Caregiver Engagement is dedicated to communicating and engaging with cancer patients, their caregivers, and the public.

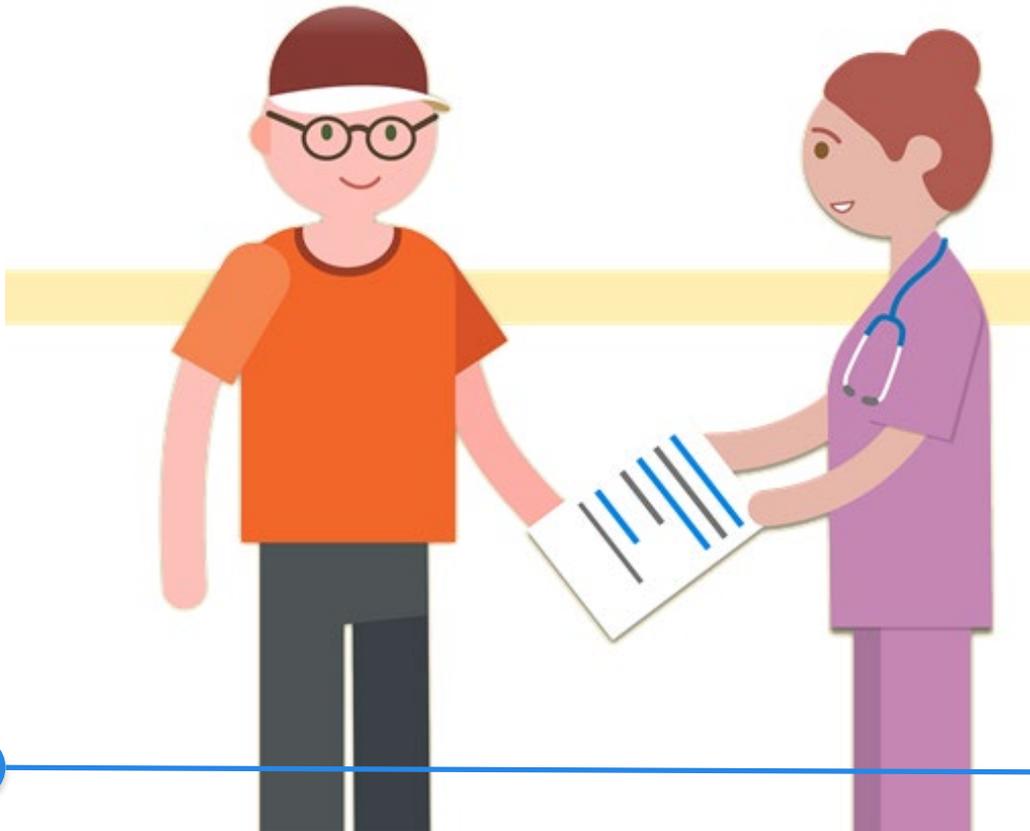
Our Patient and Caregiver Education Program collaborates with healthcare professionals to provide accurate, clear, and reliable educational resources to the global community.



# History

## Patient and Caregiver Education

“Fact cards” and DVDs for patients and caregivers were made available to order and distributed by clinicians



# History

## Patient and Caregiver Education

Goal was to make all of our resources available online

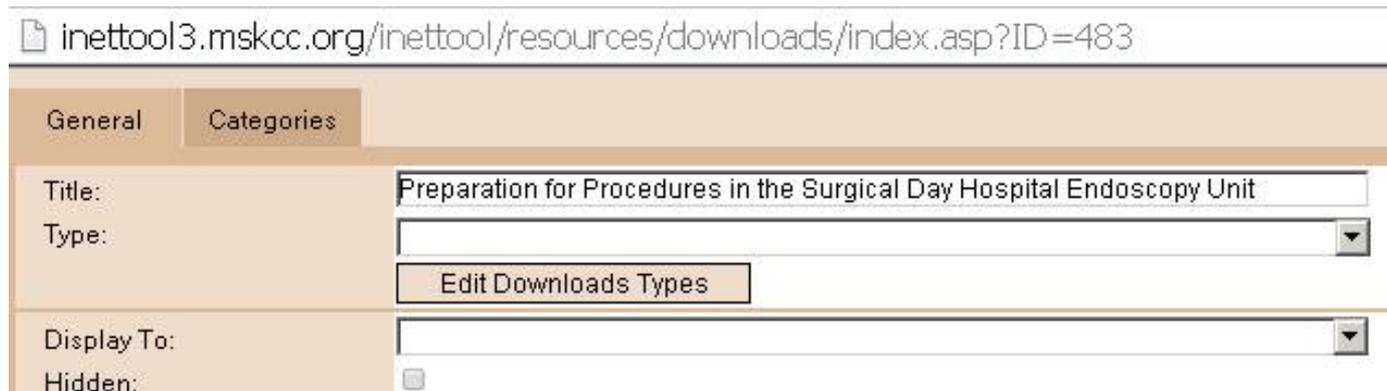


# History

## Patient and Caregiver Education

Partnered with Jacob Rockowitz for development of the Inettool.

A homegrown content management system (CMS) developed using ASP/Jscript and used to upload and manage a library of PDFs.



The screenshot shows a web browser window with the URL `inettool3.mskcc.org/inettool/resources/downloads/index.asp?ID=483`. The page has two tabs: "General" and "Categories". The "General" tab is active. The form contains the following fields:

- Title:** A text input field containing "Preparation for Procedures in the Surgical Day Hospital Endoscopy Unit".
- Type:** A dropdown menu with a downward arrow.
- Edit Downloads Types:** A button.
- Display To:** A dropdown menu with a downward arrow.
- Hidden:** A checkbox that is currently unchecked.



# History

## Patient and Caregiver Education

We are online...

Log In Home MSKCC.org Locations FAQ Contact Us

 Memorial Sloan-Kettering Cancer Center

Memorial Sloan-Kettering Cancer Center

Enlarge Text Size Search:  GO

### Patient Education Publications [Print](#)

**MSKCC PROGRAMS AND SERVICES:**

- » Educational Resources
- » Our Doctors
- » Hospital Information
- » Patient Care Facilities
- » Support Services
- » Survivorship Information

**Browse By Category:**

**Search by Keyword:**   [Clear](#)

Results **1 - 10** of about **102** for **Exercises Breast**.

[PDF] [Exercises After Breast Surgery](#)  
*Self-Care and Follow-Up*  
... **Exercises** After **Breast** Surgery ... You will need two pieces of tape for this **exercise**. ... If you have had surgery on both **breasts**, set your goal using the arm that ...  
[www2.mskcc.org/.../downloads-english/21.pdf](http://www2.mskcc.org/.../downloads-english/21.pdf) - [Text Version](#)

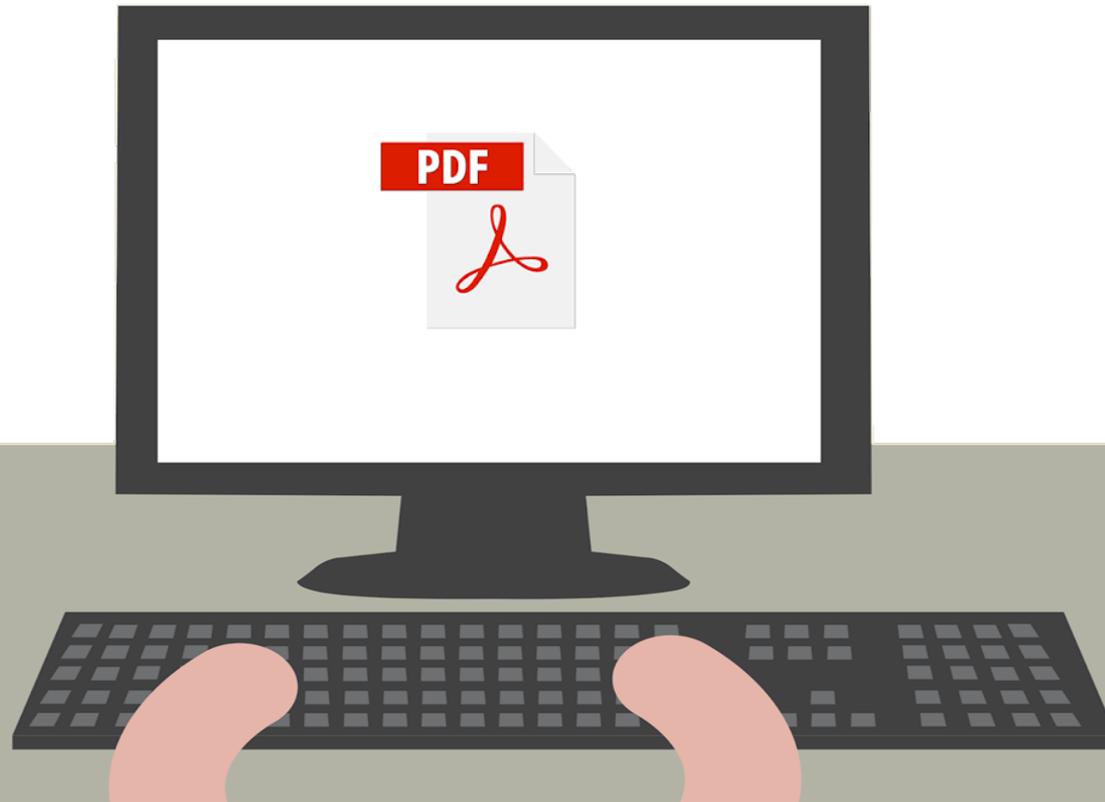
[PDF] [Breast Reconstruction Using Tissue Transfer: A Guide to Care After Surgery](#)  
*Self-Care and Follow-Up*



# History

## Patient and Caregiver Education

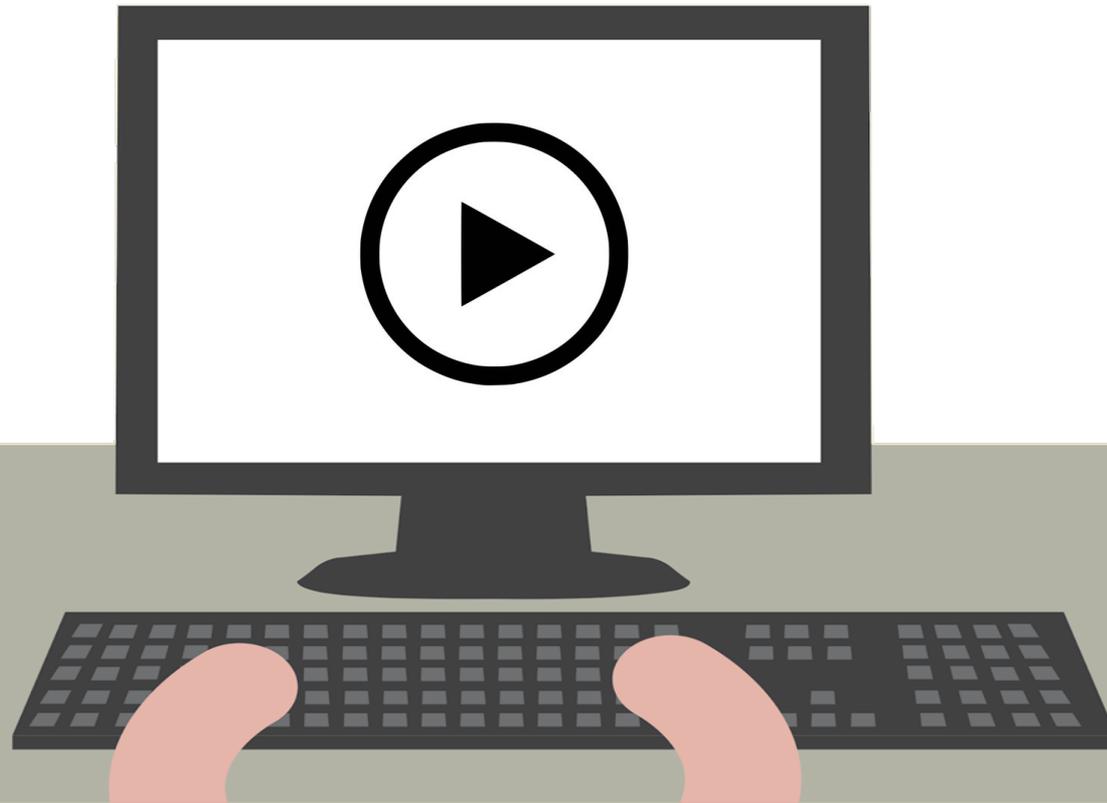
But only PDFs were available online...



# History

## Patient and Caregiver Education

Video resources





# History

## Patient and Caregiver Education

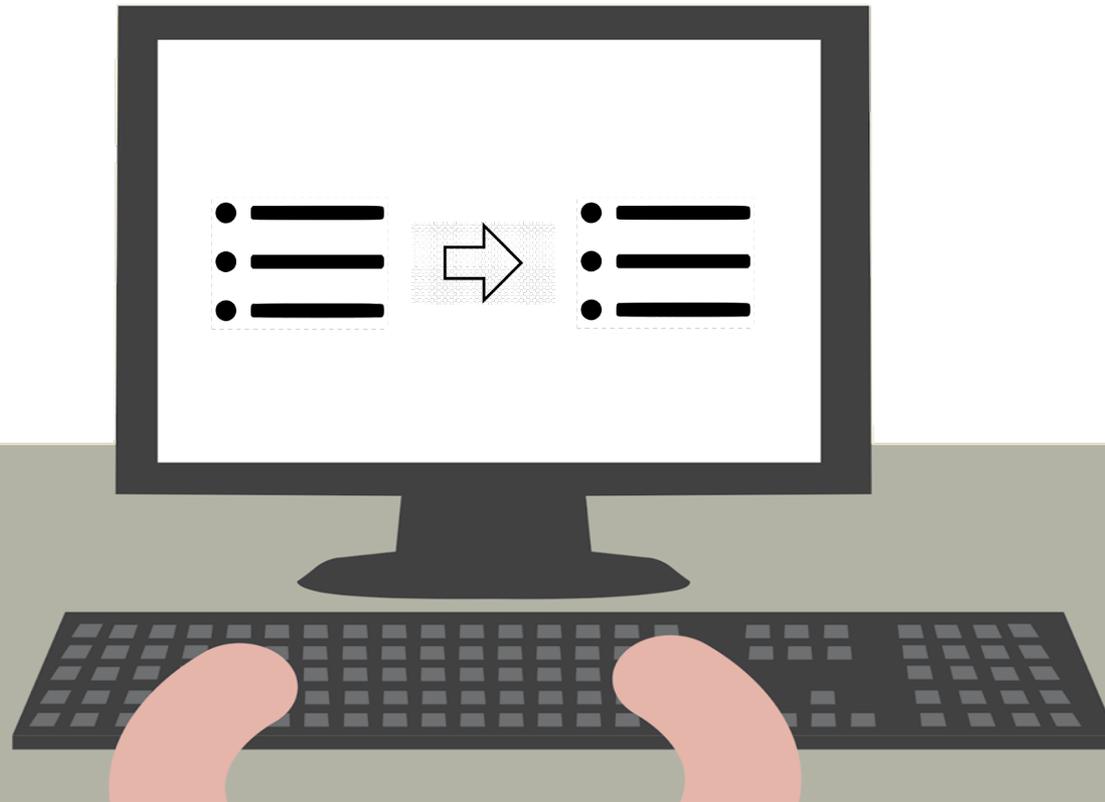
Improve Search



# History

## Patient and Caregiver Education

Send resources to patients and caregivers electronically



# History



Drupal



# History

## Drupal 6

- Admin UI
- Taxonomy/Categorization
- Drupal Search
- HTML to PDF
- Translations
- Revisioning
- Rich media support



## Drupal 6

### Migration of existing PDFs and PDF translations

**PATIENT INFORMATION  
FACT CARD**

## Stress Echocardiogram

### Introduction

An echocardiogram, or “echo,” is a test that tells your doctor about the structure and function of your heart. Heart valves keep the blood flowing through the heart and to the lungs. An echo tells us:

- How well your heart valves are working.
- How well your heart muscle is moving.
- How your blood is flowing.
- The size of the four chambers of your heart.

This test can also provide information about the coronary arteries. These are the blood vessels that often become narrow because of high cholesterol.

Any abnormalities in the heart’s structure or function may cause symptoms. They include shortness of breath, chest pain, or both. These symptoms can also be caused by other conditions. An echo can help your doctor diagnose their cause.

### Preparation for a Stress Echo



# History

## Drupal 6

The screenshot displays the Memorial Sloan Kettering Cancer Center website. At the top, there is a navigation menu with links for 'About Us', 'Locations', 'Events', 'Jobs', 'Giving', 'Videos', 'Pressroom', 'Blog', 'Stay Connected', and 'Patient Login'. The main header features the center's logo and name, a search bar, and a 'Find a Doctor' button. Below the header is a blue navigation bar with tabs for 'HOME', 'CANCER CARE', 'RESEARCH', 'EDUCATION & TRAINING', and 'Making an Appointment'. Underneath this bar are several dropdown menus: 'Cancer & Treatment', 'For New Patients', 'Counseling & Support', 'Survivorship Center', 'Hospital Information', and 'For Healthcare Professionals'. The main content area is titled 'PATIENT & CAREGIVER EDUCATION' and 'Educational Resources'. It includes a search bar with 'SEARCH' and 'CLEAR' buttons. To the right, there are two yellow callout boxes: 'Looking for more information?' with a link to search other websites, and 'Tell us what you think' with a link to provide feedback. Below the search bar, there is a section titled 'Find Resources by Disease and/or Category' with two columns of links. The left column lists 'Adult Cancer Care' with sub-links for 'All', 'Bladder Cancer', 'Brain Cancer', 'Breast Cancer', and 'Cervical Cancer'. The right column lists 'Caregiver Resources' with sub-links for 'All', 'Chemotherapy & Medications', 'Chemotherapy & Medications (Lexicomp)', and 'Taking Your Medications'.

About Us Locations Events Jobs Giving Videos Pressroom Blog | Stay Connected | Patient Login

Memorial Sloan Kettering Cancer Center.

SEARCH Find a Doctor GO

HOME CANCER CARE RESEARCH EDUCATION & TRAINING Making an Appointment »

Cancer & Treatment For New Patients Counseling & Support Survivorship Center Hospital Information For Healthcare Professionals

PATIENT & CAREGIVER EDUCATION

### Educational Resources

Search for Keywords SEARCH CLEAR

Looking for more information?  
Search other websites we trust.

Tell us what you think  
Your feedback will help us improve the information we provide to patients and

#### Find Resources by Disease and/or Category

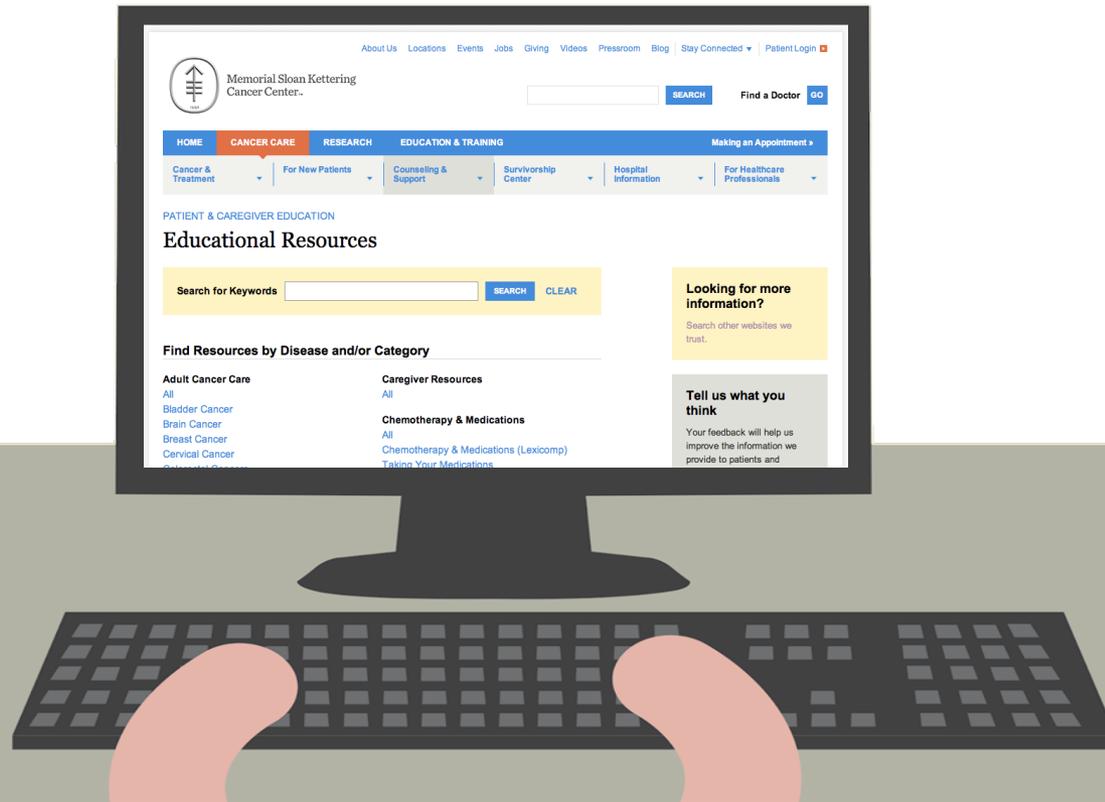
**Adult Cancer Care**  
All  
Bladder Cancer  
Brain Cancer  
Breast Cancer  
Cervical Cancer

**Caregiver Resources**  
All  
**Chemotherapy & Medications**  
All  
Chemotherapy & Medications (Lexicomp)  
Taking Your Medications



# History

## Drupal 6



# History

## Drupal 6

Medication leaflets synced to our site nightly via FTP



# History

## Drupal 6

### Green Initiative

Reduce quantity of print resources in circulation

- Resources with low print distribution were made available via web-only
- All new resources to have an HTML version





PATIENT INFORMATION  
FACT CARD

### Giving an Insulin Injection with the Lantus® SoloStar® Pen

**Notes:**

- Do not use SoloStar® until you have been instructed by your healthcare provider on how to use it.
- Wash the injection site with soap and water before you inject.
- Do not use SoloStar® if the insulin is cloudy or contains particles.
- Do not use SoloStar® if the insulin is expired.
- Do not use SoloStar® if the insulin is not at room temperature.
- Do not use SoloStar® if the insulin is not at room temperature.

This card describes how to prepare and give an insulin injection with the Lantus SoloStar Pen. Your nurse will review these steps with you and help you practice it first.

- Keep all new, unused insulin devices in the refrigerator. Do not freeze them.
- Never put the device you are using back in the refrigerator. Keep it at room temperature, away from heat and sunlight.
- Discard the Lantus SoloStar Pen 28 days after pricking the rubber stopper.

#### Gather Your Materials

- Prepare a clean, steady surface on which to work. Gather the following:
  - Lantus SoloStar Insulin Pen
  - A new, single-use insulin needle
  - Alcohol swab
  - Sharp container (a non-see-through plastic, screw-top container)



## Drupal 6

Developed print stylesheet for PDFs generated from HTML

- Matched “fact card” layout created by our Graphics team

### Recovering at Home

- For 2 weeks after your procedure, or as instructed by your doctor, do not:
  - Douche
  - Use tampons
  - Have vaginal intercourse
- You can take showers. Ask your doctor when you can take a bath.
- You may have some cramping and vaginal bleeding similar to a menstrual period. This may last for several days after your procedure.
- Call your doctor to schedule your follow-up appointment.

### Call Your Doctor or Nurse if You Have:

- A temperature of 101° F (38.3° C) or higher
- Vaginal bleeding that is heavier than your usual menstrual flow
- Pain that is not relieved by the medication your doctor recommended
- Swelling in your abdomen
- Foul-smelling vaginal discharge

### Contact Information

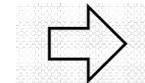
If you have any questions or concerns, please talk with your doctor or nurse. You can reach them Monday through Friday from 9:00 am to 5:00 pm at the numbers listed below.

Doctor: \_\_\_\_\_  
Telephone: \_\_\_\_\_  
Nurse: \_\_\_\_\_  
Telephone: \_\_\_\_\_

After 5:00 pm, during the weekend, and on holidays, please call (212) 639-2000 and ask for the doctor on call for your doctor.

 Memorial Sloan-Kettering Cancer Center

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CF-500



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### PATIENT & CAREGIVER EDUCATION

## Dilation and Curettage (D&C)

This information will help you prepare for dilation and curettage (D&C), including what to expect before, during, and after your procedure.

Dilation and curettage (D&C) is a procedure in which your cervix is dilated (enlarged) and tissue is removed from the inside of your uterus. The tissue is removed with a thin instrument called a curette.

You may also have a hysteroscopy at the same time as your D&C. A hysteroscopy is a procedure in which a thin scope with a light and a camera on the end is inserted into your uterus through your vagina. This allows your doctor to see the lining of your uterus and look for anything abnormal.

### Purpose of a D&C

A D&C is done to diagnose or treat various conditions of the uterus. It also can be used to clear the lining of the uterus after a miscarriage or abortion.

Most commonly, a D&C is done to find the cause of abnormal uterine bleeding. Examples of abnormal uterine bleeding include:

- Bleeding between periods.
- Bleeding after vaginal intercourse, including light spots of blood.
- Heavy, irregular, or long periods.
- Sudden vaginal bleeding after a year or longer without getting a period.

This bleeding can be caused by:

- Endometrial cancer, which is cancer of the lining of the uterus. A D&C can help in diagnosing early stages of the cancer.
- Fibroids, which are growths of the uterus that are made up of connective tissue and muscle fiber. Most of the time, they are benign (noncancerous).

# History

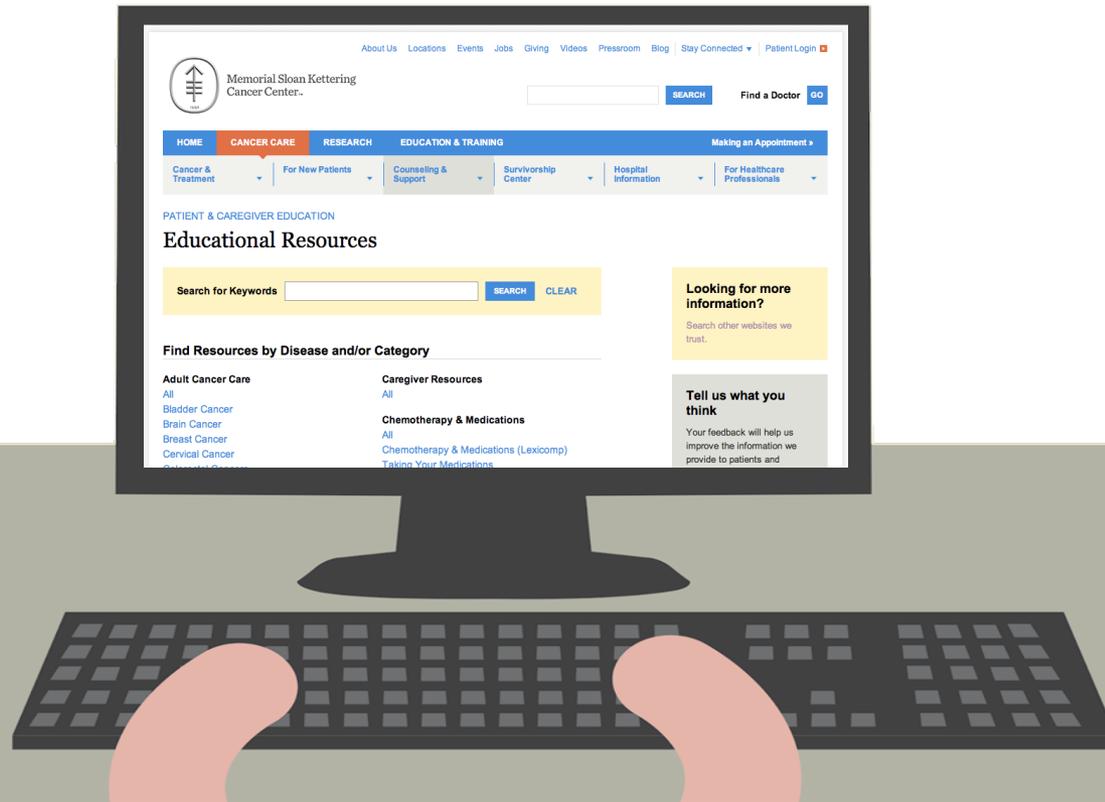
## Drupal 6

Send to patient functionality introduced



# History

## Drupal 6



# History



Drupal™



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# History

## Drupal 8

As we were migrating from a Drupal 6 site, our Communications team opted to move to Drupal 8 in alpha versus upgrading to Drupal 7 for the long-term benefits of being on the latest platform.



Drupal™

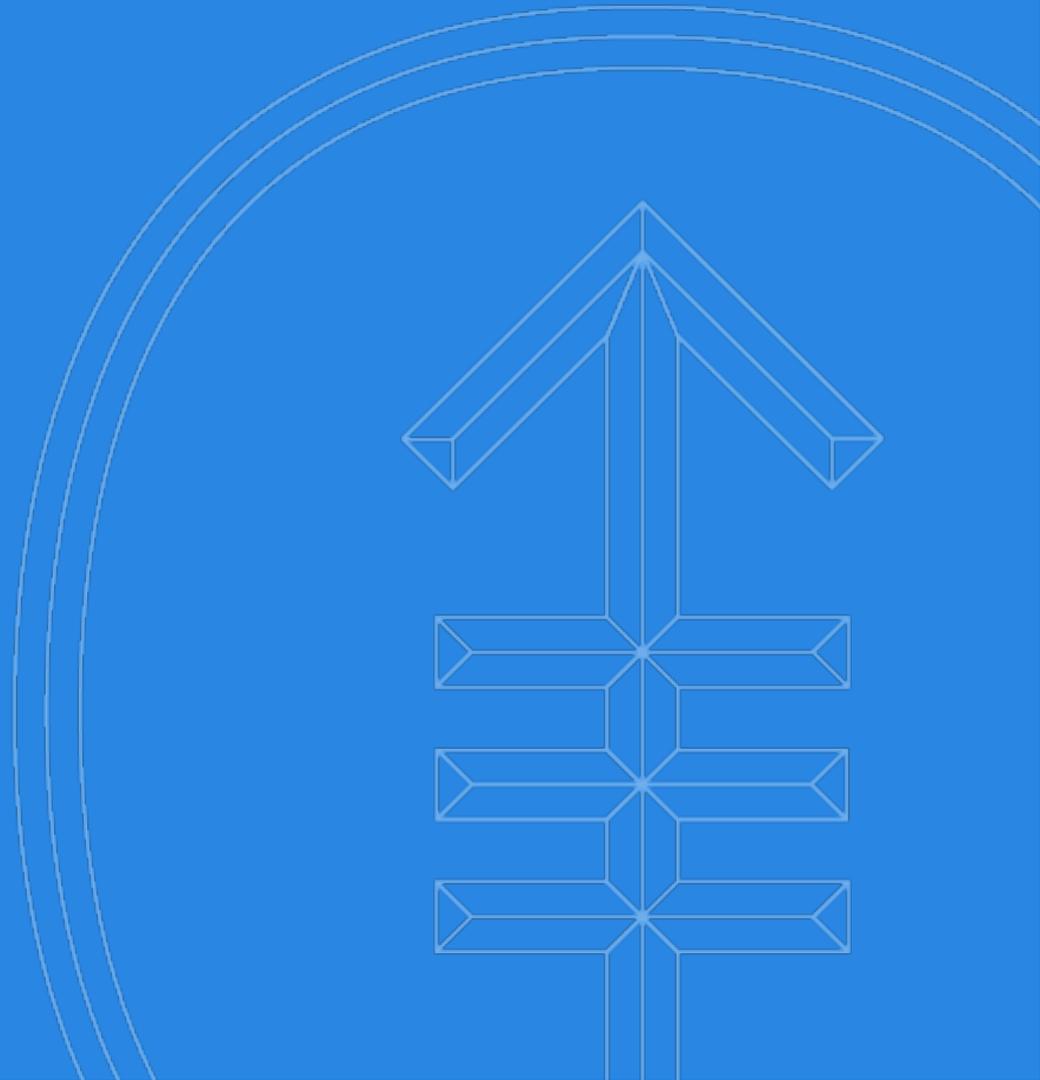


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# Migration



# Migration

## Drupal 8

Converting all static PDFs to HTML

Involved converting .indd files to HTML and importing to CMS as nodes in Drupal for cleanup by content editors





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# Aggregation



# Aggregation

## Drupal 8

### Expanded content types

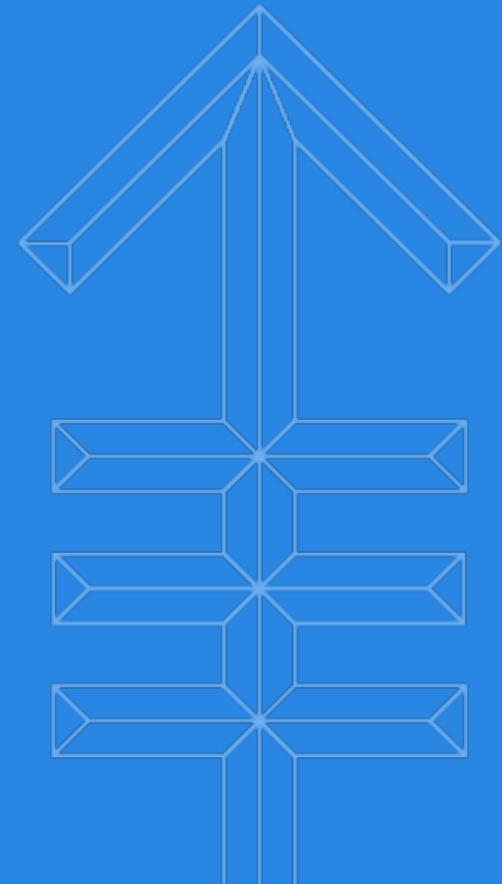
- Text
- External Text
- Videos
- External Videos
- About Herbs
- Adult Medications (Lexicomp)
- Pediatric Medications (Lexicomp)
- Presentations
- Webcasts
- Online Support Groups





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# Implementation



# Implementation

## Drupal 8

- Admin UI
- Revisioning
- Translations
- Search
- Improved PDF generation



# Implementation

## Drupal 8

### Admin UI (Views)

The screenshot displays the Drupal 8 Admin UI for the 'Patient Education Resources' entity. The page is titled 'Patient Education Resources' and includes a 'Manage' button. Below the title, there is a '+ Add Patient Education' button and a status indicator 'Total: 4415 Patient Education Resources'. The main content area is divided into three sections: 'GENERAL', 'EDITORIAL', and 'CATEGORIES/TAGS'. The 'GENERAL' section contains filters for 'Type', 'Title', 'Keywords', 'Published', 'Status', and 'Owner'. The 'EDITORIAL' section contains filters for 'Created', 'Due for Review', 'Last Updated', 'Out for Review', and 'Content Expert'. The 'CATEGORIES/TAGS' section is currently collapsed. At the bottom of the page, there is an 'Apply' button and a table header with columns: 'SUBTYPE', 'TITLE', 'PUBLISHED', 'OWNER', 'LAST UPDATED', 'DUE FOR REVIEW', 'OUT FOR REVIEW', and 'CREATED'.



# Implementation

## Drupal 8

### Admin UI (Views)

Home

### Patient Education Resources

Manage Duplicates Snippets

[+ Add Patient Education](#)

Total: 4415 Patient Education Resources

**▼ GENERAL**

Type:  Title:  Keywords:  Published:  Status:  Owner:

Language:

**▼ EDITORIAL**

|                                       |                                       |                                       |                                       |                                      |
|---------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|--------------------------------------|
| Created: <input type="text"/>         | Due for Review: <input type="text"/>  | Last Updated: <input type="text"/>    | Out for Review: <input type="text"/>  | Content Expert: <input type="text"/> |
| <small>From date (YYYY-MM-DD)</small> | <small>From date (YYYY-MM-DD)</small> | <small>From date (YYYY-MM-DD)</small> | <small>From date (YYYY-MM-DD)</small> |                                      |
| <input type="text"/>                  | <input type="text"/>                  | <input type="text"/>                  | <input type="text"/>                  |                                      |
| <small>To date (YYYY-MM-DD)</small>   | <small>To date (YYYY-MM-DD)</small>   | <small>To date (YYYY-MM-DD)</small>   | <small>To date (YYYY-MM-DD)</small>   |                                      |

**▶ CATEGORIES/TAGS**

**▶ ADVANCED**



# Implementation

## Drupal 8

### Admin UI (Node Edit Form)

View Edit Revisions Translate

General Main Asset Webform Related Content Tags/Categories Notes

**Notes (YAML)**

```
1 reviewer_1:
2   date: null
3   name: null
4   pemat:
5     understandability: null
6     actionability: null
7 reviewer_2:
8   date: null
9   name: null
10  pemat:
11    understandability: null
12    actionability: null
13 readability:
14   date: null
15   flesch_reading_ease: null
16   smog_index: null
```

**Notes**

Hide row weights

**CONTENT EXPERTS** ORDER

Diana Glauner 0

**Published**  
*Last saved: 12/03/2018 - 3:43 PM*  
**Author:**  
 Create new revision  
Revisions are required.

**Revision log message**

Briefly describe the changes you have made.

**TRANSLATION**

**URL ALIAS**

**URL alias**  
/cancer-care/patient-education/2-gram-sodium-diet  
Specify an alternative path by which this data can be accessed. For example, type "/about" when writing an about page.  
**URL aliases are automatically generated.**

**MSK: Path part**  
2-gram-sodium-diet  
Used to build the URL alias for this page and all its sub-pages.  
Changing this field's value will not automatically update sub-pages

**TRANSLATION MANAGEMENT**

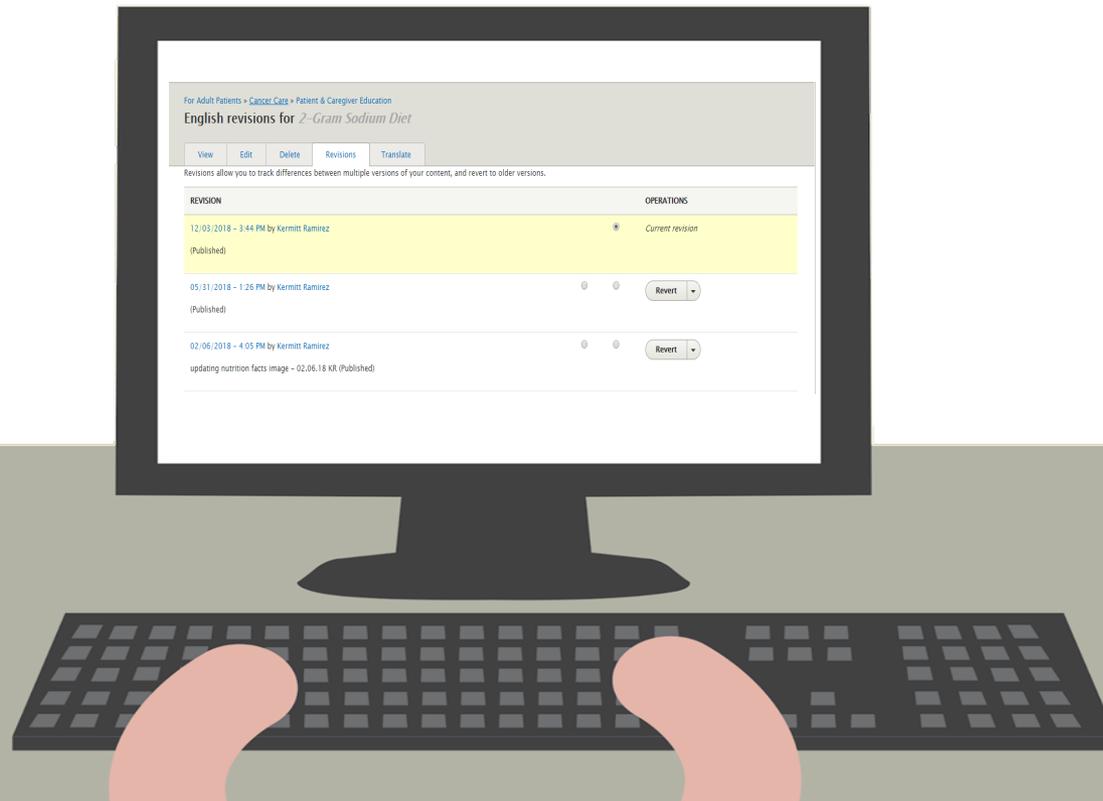
**AUTHORING INFORMATION**



# Implementation

## Drupal 8

### Revising (Content Moderation)



# Implementation

## Drupal 8

### Revisioning

For Adult Patients » [Cancer Care](#) » Patient & Caregiver Education

#### English revisions for *2-Gram Sodium Diet*

View

Edit

Delete

Revisions

Translate

Revisions allow you to track differences between multiple versions of your content, and revert to older versions.

| REVISION  | OPERATIONS  |
|---|---|
| 12/03/2018 - 3:44 PM by Kermitt Ramirez<br>(Published)  | <input checked="" type="radio"/> <i>Current revision</i>                          |
| 05/31/2018 - 1:26 PM by Kermitt Ramirez<br>(Published)  | <input type="radio"/> <input type="radio"/> <input type="button" value="Revert"/> |
| 02/06/2018 - 4:05 PM by Kermitt Ramirez<br>updating nutrition facts image - 02.06.18 KR (Published) | <input type="radio"/> <input type="radio"/> <input type="button" value="Revert"/> |



# Implementation

## Drupal 8

### Translations



# Implementation

## Drupal 8

## Lingotek Professional Translations

For Adult Patients » Cancer Care » Patient & Caregiver Education

### Translations of 2-Gram Sodium Diet

[View](#) [Edit](#) [Revisions](#) [Translate](#)

#### ▼ SOURCE & TRANSLATION STATUS CODES

|               |           |         |        |           |         |         |              |  |
|---------------|-----------|---------|--------|-----------|---------|---------|--------------|--|
| <b>SOURCE</b> | UNTRACKED | REQUEST | EDITED | IMPORTING | CURRENT |         |              |  |
| <b>TARGET</b> | UNTRACKED | REQUEST | EDITED | PENDING   | READY   | CURRENT | INTERMEDIATE |  |

| TITLE                              | SOURCE | TRANSLATIONS | IMAGE TRANSLATIONS           |                              |
|------------------------------------|--------|--------------|------------------------------|------------------------------|
| <a href="#">2-Gram Sodium Diet</a> | EN     | ES RU        | nutrition_facts-fig_1-en.png | ES RU <a href="#">Images</a> |

| LANGUAGE                    | TRANSLATION   | STATUS        | LAST UPDATED | VIEW                                      | OPERATIONS                                     |
|-----------------------------|---|---------------|--------------|---|--|
| English (Original language) | <a href="#">2-Gram Sodium Diet</a>                        | Published     | 02/05/2018   | <a href="#">Print</a> <a href="#">PDF</a> | <a href="#">Edit</a> ▼                         |
| Russian                     | <a href="#">Диета с употреблением не более 2 г натрия</a> | Not published | 12/03/2018   | <a href="#">Print</a> <a href="#">PDF</a> | <a href="#">Download completed translation</a> |
| Spanish                     | <a href="#">Dieta con 2 gramos de sodio</a>               | Not published | 12/03/2018   | <a href="#">Print</a> <a href="#">PDF</a> | <a href="#">Download completed translation</a> |



# Implementation

## Manage Translations

Dashboard

Content

Settings

### ▼ SOURCE & TRANSLATION STATUS CODES

SOURCE

UNTRACKED

REQUEST

EDITED

IMPORTING

CURRENT

TARGET

UNTRACKED

REQUEST

EDITED

PENDING

READY

CURRENT

INTERMEDIATE

### ▼ FILTER

Title

Filter by Content type



Content type

Patient Education x

Job ID

▶ SHOW ADVANCED OPTIONS

Filter

Reset

### ▼ BULK DOCUMENT MANAGEMENT

Upload source for translation



Execute

Show advanced options:

Displaying 1 - 10 of 622 documents

| <input checked="" type="checkbox"/> | CONTENT TYPE      | TITLE   | SOURCE | TRANSLATIONS | TRANSLATED IMAGES |
|-------------------------------------|-------------------|---|--------|--------------|-------------------|
| <input checked="" type="checkbox"/> | Patient Education | 24-Hour Urine Collection for Total Protein Evaluation |        | EN           |                   |



# Implementation

## Drupal 8

Instant Search



# Implementation



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[Sloan Kettering Institute](#) | [Giving](#) | [Locations](#) | [Doctors](#) | [Appointments](#) | [Contact](#)

Search



[For Adult Patients](#)

[For Child & Teen Patients](#)

[For Healthcare Professionals](#)

[For Research Scientists](#)

[More](#)

[Languages](#)

[MyMSK](#)

[For Adult Patients](#) / [Cancer Care](#)

## Patient & Caregiver Education



We invite you to search our virtual library, where you can find written resources, videos, and online programs.

Search by keyword

Our Patient & Caregiver Education Program is dedicated to educating and empowering people with cancer, their caregivers, and the public. We know that navigating cancer care information can be overwhelming. That's why our Health Education Specialists work with MSK healthcare providers to develop accurate, clear, and reliable educational resources. [Learn more about our staff »](#)



We also offer live, online education and support groups through our Virtual Programs. From the comfort of your own home, you can participate in professionally led, confidential, and free interactive programs that allow you to connect with other people with cancer and their caregivers.

## InSight Care Educational Templates

### Educational Resources

Send or Print

Manage My Lists

My Lists

Add resources to your list by clicking the checkbox next to the title.

[Learn how to create and manage your resource lists](#)

[Log out](#)

## Looking For More Information?

Search other websites we trust.

Google™ Custom Search



## Contact Us

[Request a new resource](#)



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# Implementation



For Adult Patients / [Cancer Care](#)

## Patient & Caregiver Education



We invite you to search our virtual library, where you can find written resources, videos, and online programs.

Search by keyword

[Back to main page](#)

### [Showering While You Have a Central Venous Catheter | Video](#)

This video will teach you how to put on a waterproof cover over your dressing before you shower and how to shower using Hibiclens.

### [How to Flush Your Central Venous Catheter | Video](#)

This video will show you how to flush your central venous catheter (CVC).

### [What to Expect on the Day of Your Surgery at MSK's Memorial Hospital | Video](#)

This video will give you an idea of what to expect when you come to Memorial Hospital (MSK's main hospital) on the day of your surgery.

### [How to Manage Constipation During Chemotherapy | Video](#)

This video explains why you may have trouble having a bowel movement, which is called constipation, what you can do to prevent it, and when you should call your healthcare provider.

### [Caring for Your Wound after Your Skin Procedure Without Sutures](#)

### Educational Resources

[Log in](#) to print or send this list to your patient and save lists of resources you use frequently.

Add resources to your list by clicking the checkbox next to the title.

 [Learn how to create and manage your resource lists](#)

[Log in](#)

### Refine Your Search

#### Types

- Text [4586]
- Video [63]
- Online Support Group [43]
- Webcasts [4]
- Presentation [2]

#### Languages

- English [4698]
- Spanish [3813]
- Russian [3778]
- Chinese (Cantonese/Mandarin) [48]
- Arabic [32]

[Show more](#)

#### Categories

- Chemotherapy & Medications [3703]
- Surgeries, Tests & Procedures [314]



# Implementation

## Drupal 8

Drupal and Algolia Search Integration

### **InstantSearch APIs (Front-End/JavaScript)**

InstantSearch.js makes it easy to design the perfect search experience using prepackaged search widgets or by creating your own!

<https://community.algolia.com/instantsearch.js>

### **Search API Algolia (Back-End/Drupal)**

Provides Drupal Search API integration with the Algolia search engine

[https://www.drupal.org/project/search\\_api\\_algolia](https://www.drupal.org/project/search_api_algolia)



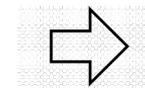
# Implementation

## Drupal 8

### PDF Generation Tips

#### HTML to PDF conversion

- Keep it simple
  - Basic markup
  - No custom fonts
- Presentation
  - Page breaks
  - PDF previews
- Performance
  - Caching
  - No JavaScript



# Implementation

## Drupal 8

### PDF Generation Tools

#### **wkhtmltopdf**

CLI tool for rendering HTML into PDF using the WebKit rendering engine.

<https://wkhtmltopdf.org/>

#### **XPDF**

PDF viewer/toolkit, including a text extractor, and image and HTML converter.

<https://www.xpdfreader.com/>

#### **GhostScript**

An interpreter for the PostScript language and for PDF.

<https://www.ghostscript.com>



# Implementation

## Drupal 8

### Drupal PDF Generation Modules

#### **Printer, email and PDF versions for Drupal 8**

Generates a printer-friendly version of Drupal content entities.

<https://www.drupal.org/project/printable>

#### **Entity Print**

Allows any Drupal entity to be converted to a PDF

[https://www.drupal.org/project/entity\\_print](https://www.drupal.org/project/entity_print)



# Implementation

## Drupal 8

Thanks to the improvements to PDF generation, we were able to discontinue printing on card stock



# Implementation

## Drupal 8

### Accessibility Improvements

#### Standard Font PDFs



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PATIENT & CAREGIVER EDUCATION

### Stress Echocardiogram

This information explains what a stress echocardiogram is and what to expect during your procedure.

#### About Your Stress Echocardiogram

An echocardiogram, or echo, is a procedure that uses ultrasound to look at the structure and function of your heart. Ultrasound uses sound waves to create pictures.

If your heart's structure or function isn't normal, you may be having symptoms such as shortness of breath or chest pain. However, these symptoms can also be caused by other conditions. Your echo can help your doctor diagnose the cause of your symptoms. It can also give your doctor information about your coronary arteries. These are the blood vessels that often become narrow because of high cholesterol.

Your echo lets your doctor know:

- How well your heart valves are working.
- How well your heart muscle is moving.
- How your blood is flowing.
- The size of the 4 chambers of your heart.

#### Before Your Procedure

Ask your doctor which medications you should take before your stress echo. Take only those medications with a sip of water.

If you have diabetes, ask your doctor or diabetes nurse educator how to take your medication and food on the day of your procedure.

Stress Echocardiogram 1/3

#### Large Font PDFs



Memorial Sloan Kettering  
Cancer Center

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PATIENT & CAREGIVER EDUCATION

### Stress Echocardiogram

This information explains what a stress echocardiogram is and what to expect during your procedure.

#### About Your Stress Echocardiogram

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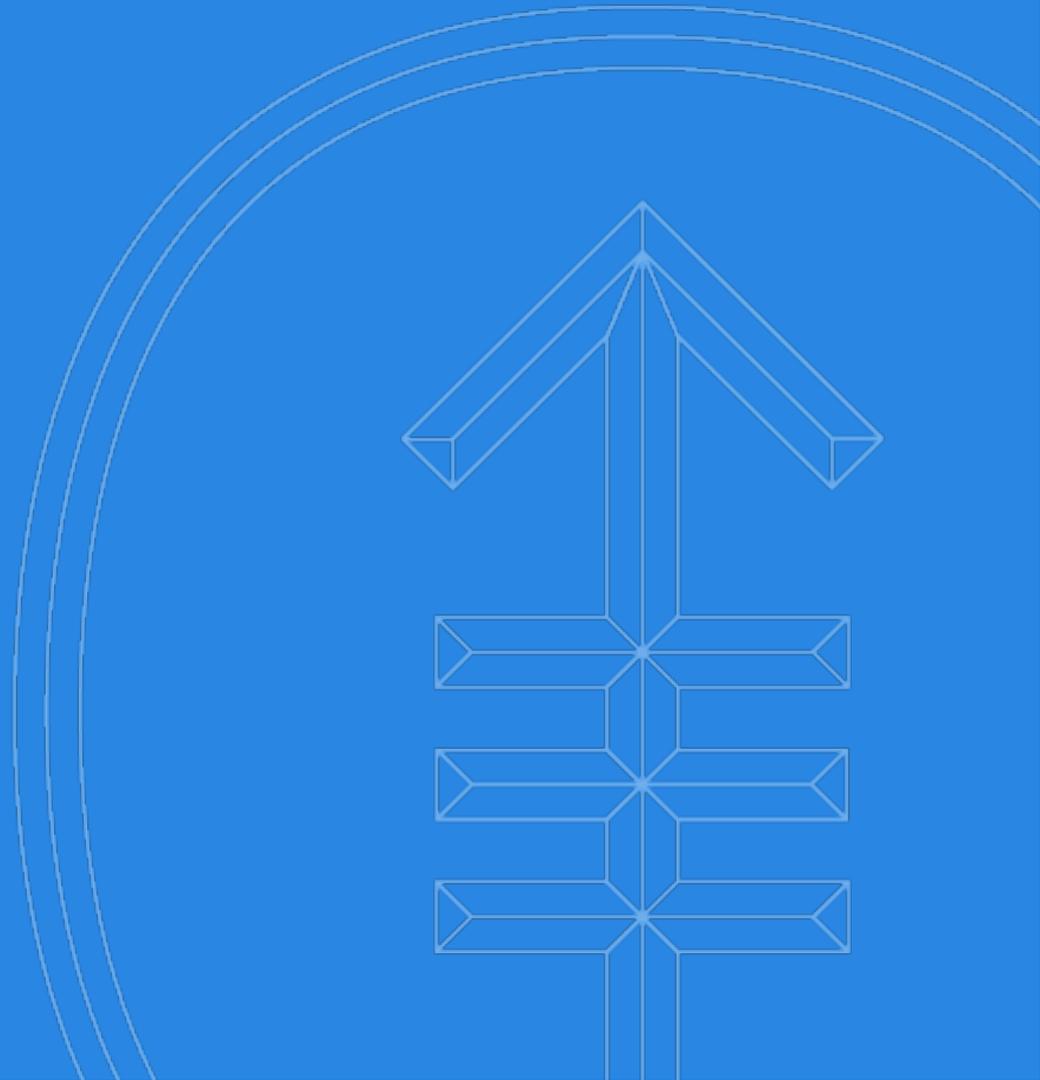
Stress Echocardiogram 1/4





Memorial Sloan Kettering  
Cancer Center

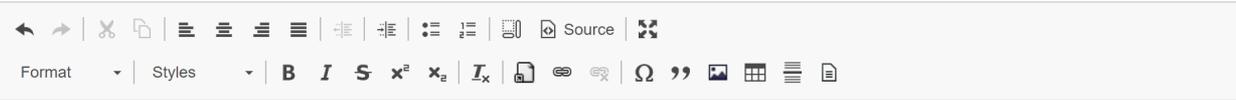
# Editor



## Drupal 8

### Print/PDF Stylesheet in CKEditor

Body



This information explains what you can eat while you're following a 2-gram sodium diet.

## About a 2-Gram Sodium Diet

Sodium is a mineral that helps balance fluids in your body. It's found in almost all foods.

You have been instructed to follow a 2-gram sodium diet. On this diet, you will limit the total amount of sodium you eat or drink to 2 grams, or 2,000 milligrams (mg), daily. One teaspoon of salt contains 2,300 mg of sodium, so you will need to take in less than this amount per day.

This diet can be used to manage:

- Heart disease
- High blood pressure
- Kidney disease
- Poor liver function
- Weight gain from water retention (such as swelling in your legs)

## Understanding Sodium Claims

The following table includes sodium claims you will find on packaged foods. Although these items may contain less salt than their regular versions, that doesn't guarantee that they are low in sodium. Knowing what these



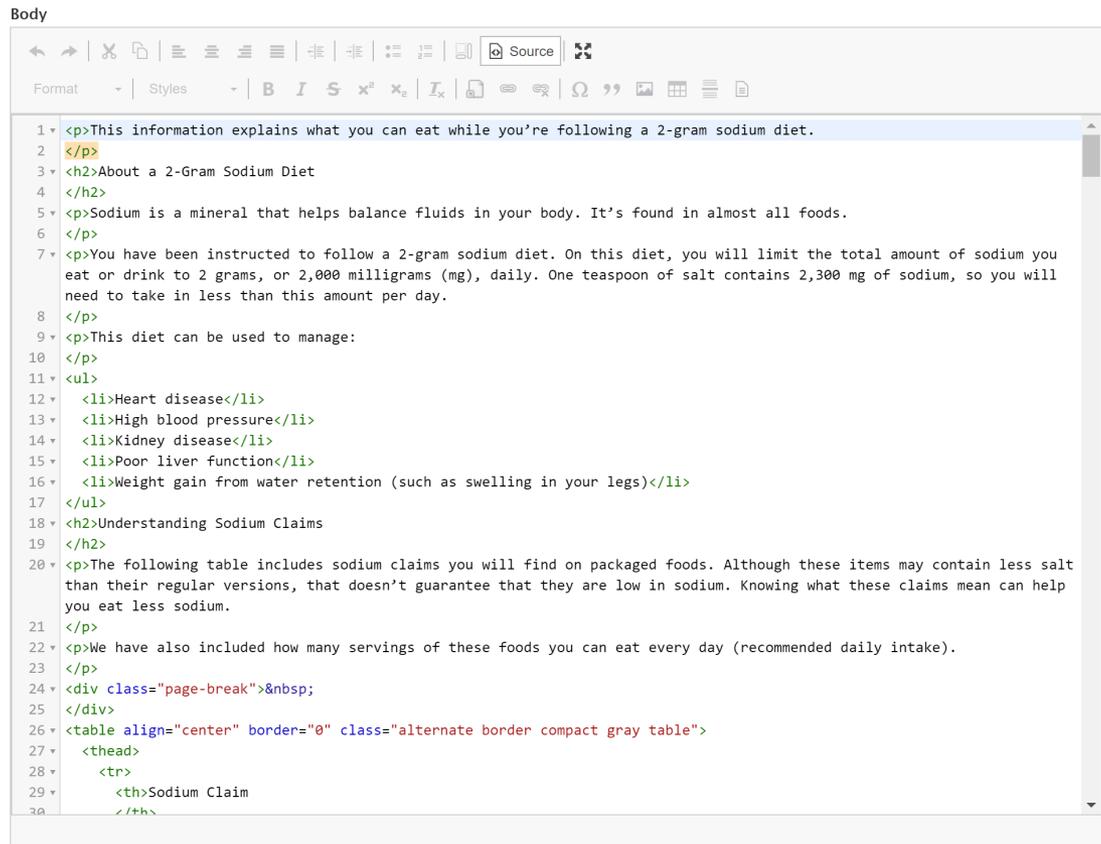
## Drupal 8

### Code Mirror Module

Adds syntax highlighting for "Source View" in CKEditor WYSIWYG editor using

[https://www.drupal.org/project/ckeditor\\_codemirror](https://www.drupal.org/project/ckeditor_codemirror)

Body



```
1 <p>This information explains what you can eat while you're following a 2-gram sodium diet.
2 </p>
3 <h2>About a 2-Gram Sodium Diet
4 </h2>
5 <p>Sodium is a mineral that helps balance fluids in your body. It's found in almost all foods.
6 </p>
7 <p>You have been instructed to follow a 2-gram sodium diet. On this diet, you will limit the total amount of sodium you
   eat or drink to 2 grams, or 2,000 milligrams (mg), daily. One teaspoon of salt contains 2,300 mg of sodium, so you will
   need to take in less than this amount per day.
8 </p>
9 <p>This diet can be used to manage:
10 </p>
11 <ul>
12 <li>Heart disease</li>
13 <li>High blood pressure</li>
14 <li>Kidney disease</li>
15 <li>Poor liver function</li>
16 <li>Weight gain from water retention (such as swelling in your legs)</li>
17 </ul>
18 <h2>Understanding Sodium Claims
19 </h2>
20 <p>The following table includes sodium claims you will find on packaged foods. Although these items may contain less salt
   than their regular versions, that doesn't guarantee that they are low in sodium. Knowing what these claims mean can help
   you eat less sodium.
21 </p>
22 <p>We have also included how many servings of these foods you can eat every day (recommended daily intake).
23 </p>
24 <div class="page-break">&nbsp;
25 </div>
26 <table align="center" border="0" class="alternate border compact gray table">
27 <thead>
28 <tr>
29 <th>Sodium Claim
30 </th>
```

# Editor

## Drupal 8

### IMCE

IMCE is an image/file directories and quota.

<https://www.drupal.org/project/imce>

File manager | Memorial Sloan Kettering Cancer Center - Google Chrome

Memorial Sloan Kettering Cancer Center [US] | [https://www.mskcc.org/imce?sendto=CKEDITOR.imce.sendto&type=image&ck\\_id=edit-body-0-value](https://www.mskcc.org/imce?sendto=CKEDITOR.imce.sendto&type=image&ck_id=edit-body-0-value)

Refresh New folder Upload Delete Resize Rename Select

| Name                         | Size  | Width | Height | Date       |
|------------------------------|-------|-------|--------|------------|
| nutrition_facts-fig_1-ru.png | 40 KB | 550   | 403    | 2018-05-31 |
| nutrition_facts-fig_1-es.png | 40 KB | 550   | 403    | 2018-05-31 |
| nutrition_facts-fig_1-en.png | 40 KB | 550   | 403    | 2018-02-06 |

3 items (120.1 KB)

[https://www.mskcc.org/sites/default/files/patient\\_ed/2\\_gram\\_sodium\\_diet-20137/nutrition\\_facts-fig\\_1-en.png](https://www.mskcc.org/sites/default/files/patient_ed/2_gram_sodium_diet-20137/nutrition_facts-fig_1-en.png) 40 KB 550x403 2018-02-06 16:05

Regular chicken with noodles soup

| Nutrition Facts         |           |
|-------------------------|-----------|
| 1 serving per container |           |
| Serving size            | 8 oz      |
| Amount per serving      |           |
| <b>Calories</b>         | <b>60</b> |
| % Daily Value*          |           |
| Total Fat 2g            | 3%        |
| Saturated Fat 0.5g      | 3%        |

Low-sodium chicken with noodles soup

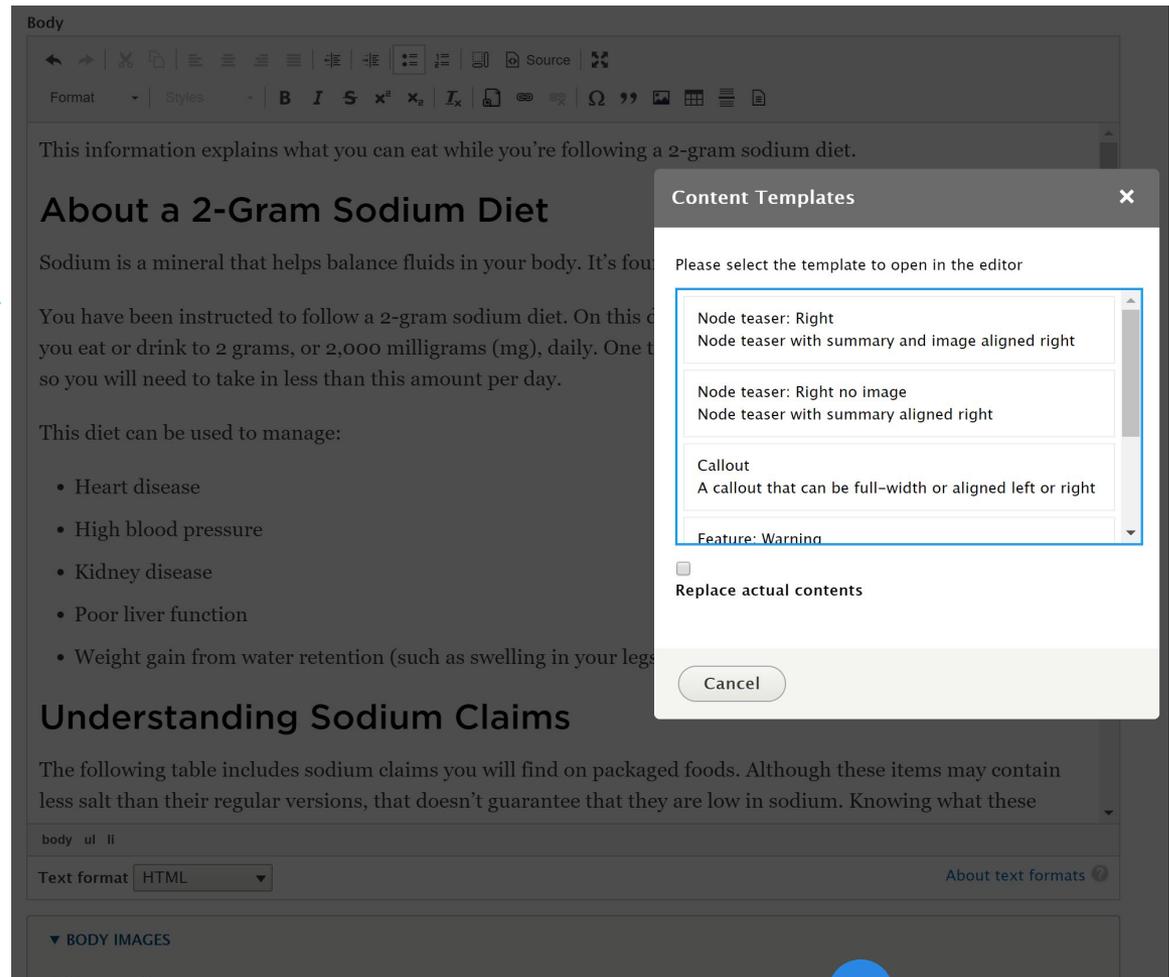
| Nutrition Facts         |            |
|-------------------------|------------|
| 1 serving per container |            |
| Serving size            | 10.75 oz   |
| Amount per serving      |            |
| <b>Calories</b>         | <b>160</b> |
| % Daily Value*          |            |
| Total Fat 4.5g          | 7%         |
| Saturated Fat 1.5g      | 8%         |



## Drupal 8

### CK Editor Templates

[https://www.drupal.org/project/wysiwyg\\_template](https://www.drupal.org/project/wysiwyg_template)



The screenshot displays the CK Editor interface within a Drupal 8 environment. The main editor area contains a document titled "About a 2-Gram Sodium Diet" with the following text:

This information explains what you can eat while you're following a 2-gram sodium diet.

### About a 2-Gram Sodium Diet

Sodium is a mineral that helps balance fluids in your body. It's found in many foods and drinks. You have been instructed to follow a 2-gram sodium diet. On this diet, you eat or drink to 2 grams, or 2,000 milligrams (mg), daily. One teaspoon of salt contains about 2,300 milligrams of sodium, so you will need to take in less than this amount per day.

This diet can be used to manage:

- Heart disease
- High blood pressure
- Kidney disease
- Poor liver function
- Weight gain from water retention (such as swelling in your legs)

### Understanding Sodium Claims

The following table includes sodium claims you will find on packaged foods. Although these items may contain less salt than their regular versions, that doesn't guarantee that they are low in sodium. Knowing what these

The "Content Templates" dialog box is open, showing a list of templates to be selected. The templates listed are:

- Node teaser: Right
- Node teaser with summary and image aligned right
- Node teaser: Right no image
- Node teaser with summary aligned right
- Callout
- A callout that can be full-width or aligned left or right
- Feature: Warning

There is a checkbox for "Replace actual contents" which is currently unchecked. A "Cancel" button is visible at the bottom of the dialog.

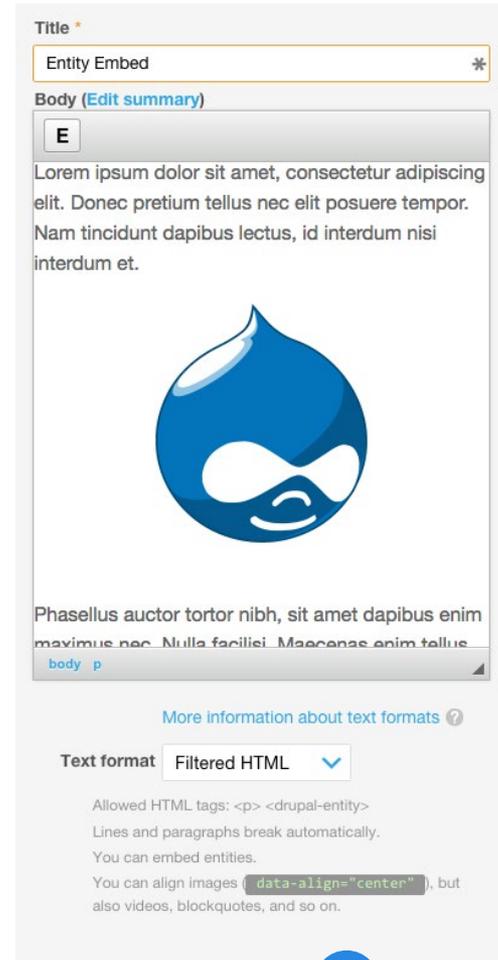


## Drupal 8

### Entity Embed

Allows any entity to be embedded within a text area using a WYSIWYG editor.

[https://www.drupal.org/project/entity\\_embed](https://www.drupal.org/project/entity_embed)



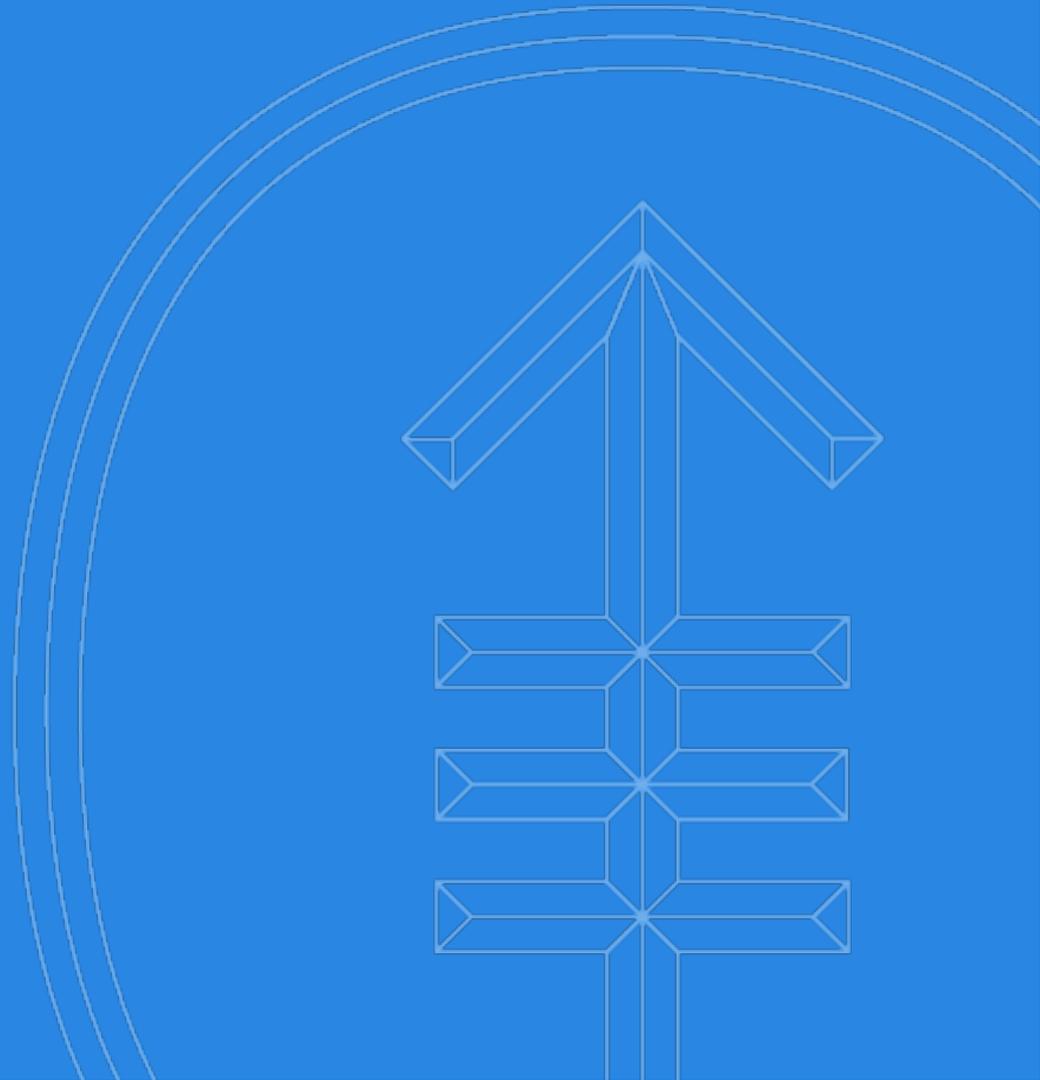
The screenshot shows the Drupal 8 Entity Embed editor interface. At the top, there is a "Title" field containing "Entity Embed". Below it is the "Body" field, which is a WYSIWYG editor. The body contains the text: "Lorem ipsum dolor sit amet, consectetur adipiscing elit. Donec pretium tellus nec elit posuere tempor. Nam tincidunt dapibus lectus, id interdum nisi interdum et." Below the text is a large blue Drupal logo. At the bottom of the body field, there is a small preview of the text: "Phasellus auctor tortor nibh, sit amet dapibus enim maximus nec. Nulla facilisi. Maecenas enim tellus". Below the body field, there is a "Text format" dropdown menu set to "Filtered HTML". Below the dropdown, there is a "More information about text formats" link. Below the link, there is a list of allowed HTML tags: "<p> <drupal-entity>". Below the list, there is a note: "Lines and paragraphs break automatically. You can embed entities. You can align images (data-align='center'), but also videos, blockquotes, and so on."





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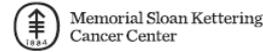
# Distribution



# Distribution

## Drupal 8

As some clinics may not be equipped to print resources on demand for patients and their caregivers, clinicians can still request certain high demand resources as 8 ½ x 11 printouts.



Memorial Sloan Kettering  
Cancer Center

PATIENT & CAREGIVER EDUCATION

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If you have diabetes, ask your doctor or diabetes nurse educator how to take your medication and food on the day of your procedure.

Stress Echocardiogram

1/3

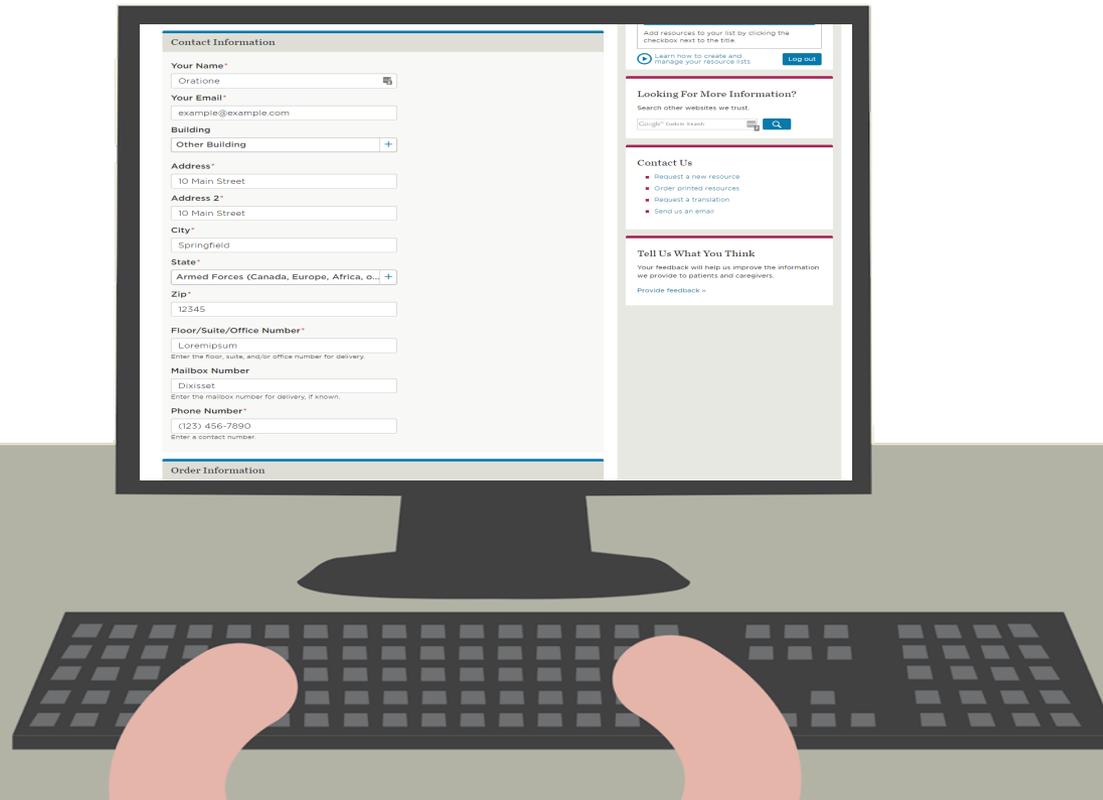


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Cancer Center

# Distribution

## Drupal 8

### Educational Resource Request Form



The image shows a computer monitor displaying a web form titled "Educational Resource Request Form". The form is divided into two main sections: "Contact Information" and "Order Information".

**Contact Information**

- Your Name\***: Text input field containing "Oratione".
- Your Email\***: Text input field containing "example@example.com".
- Building**: Text input field containing "Other Building".
- Address\***: Text input field containing "10 Main Street".
- Address 2\***: Text input field containing "10 Main Street".
- City\***: Text input field containing "Springfield".
- State\***: Dropdown menu with "Armed Forces (Canada, Europe, Africa, o...)" selected.
- Zip\***: Text input field containing "12345".
- Floor/Suite/Office Number\***: Text input field containing "Lorem ipsum".
- Mailbox Number**: Text input field containing "Dixisset".
- Phone Number\***: Text input field containing "(123) 456-7890".

**Order Information**

The right side of the form contains several utility and informational sections:

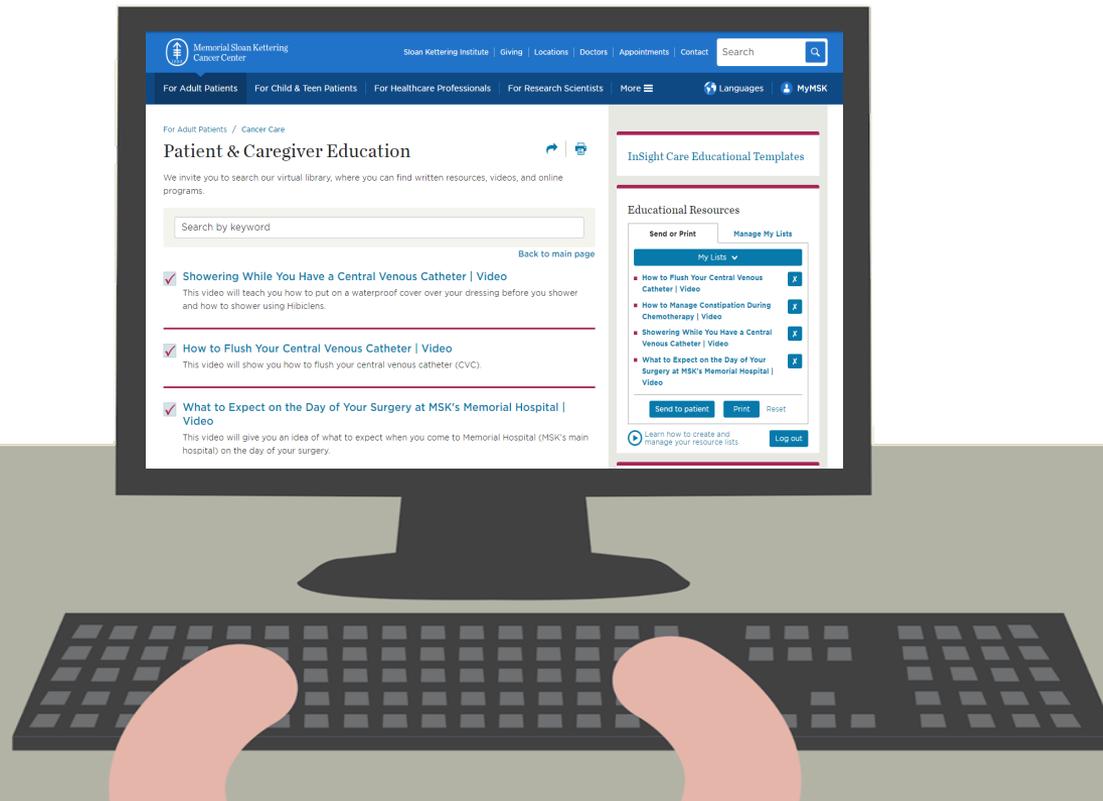
- Add resources to your list**: A section with a "Log out" button and a link to "Learn how to create and manage your resource lists".
- Looking For More Information?**: A search bar with the text "Search other websites we trust" and a "Google" button.
- Contact Us**: A list of links: "Request a new resource", "Order printed resources", "Request a translation", and "Send us an email".
- Tell Us What You Think**: A section with the text "Your feedback will help us improve the information we provide to patients and caregivers." and a "Provide feedback" link.



# Distribution

## Drupal 8

## Bookmarking



# Distribution

[For Adult Patients](#) / [Cancer Care](#)

## Patient & Caregiver Education

We invite you to search our virtual library, where you can find written resources, videos, and online programs.

Search by keyword

[Back to main page](#)

### [Showering While You Have a Central Venous Catheter | Video](#)

This video will teach you how to put on a waterproof cover over your dressing before you shower and how to shower using Hibiclens.

### [How to Flush Your Central Venous Catheter | Video](#)

This video will show you how to flush your central venous catheter (CVC).

### [What to Expect on the Day of Your Surgery at MSK's Memorial Hospital | Video](#)

This video will give you an idea of what to expect when you come to Memorial Hospital (MSK's main hospital) on the day of your surgery.

### [How to Manage Constipation During Chemotherapy | Video](#)

This video explains why you may have trouble having a bowel movement, which is called constipation, what you can do to prevent it, and when you should call your healthcare provider.

### InSight Care Educational Templates

#### Educational Resources

Send or Print

Manage My Lists

My Lists 

Add resources to your list by clicking the checkbox next to the title.

 [Learn how to create and manage your resource lists](#)

[Log out](#)

#### Refine Your Search

##### Types

- Text [4586]
- Video [63]
- Online Support Group [43]
- Webcasts [4]
- Presentation [2]

##### Languages

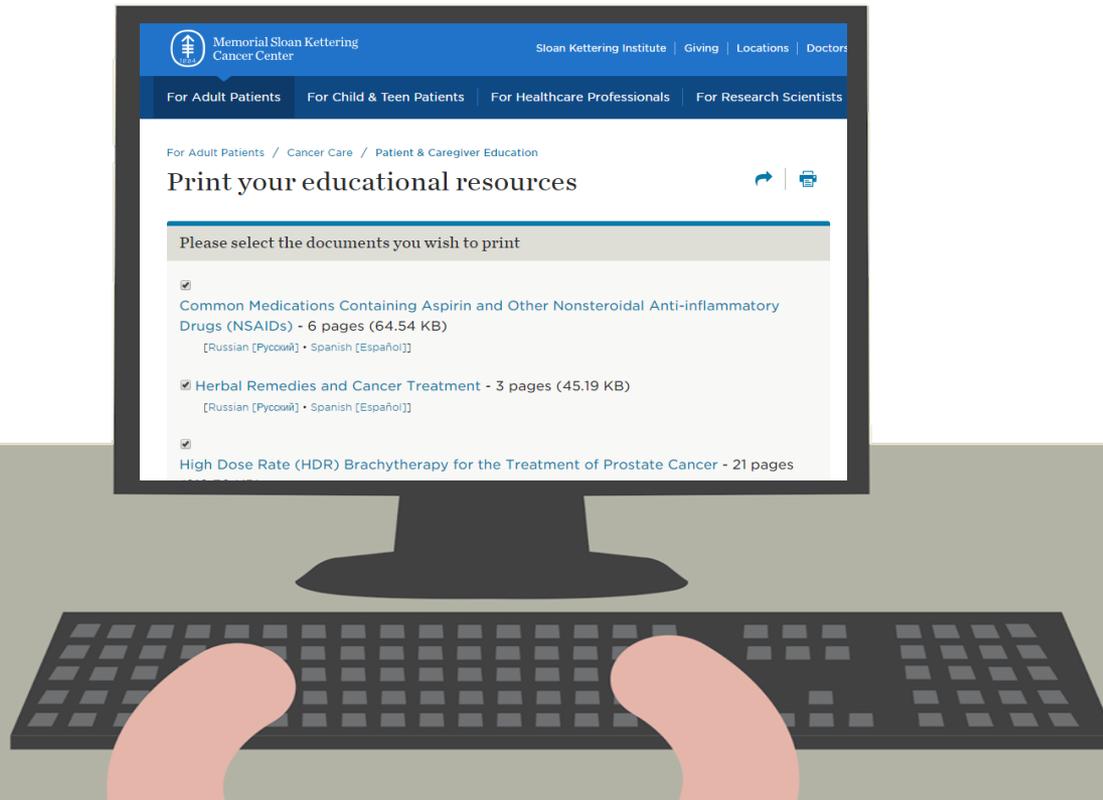
- English [4698]
- Spanish [3813]
- Russian [3778]
- Chinese (Cantonese/Mandarin) [181]



# Distribution

## Drupal 8

### Print Bundling



# Distribution

## Drupal 8

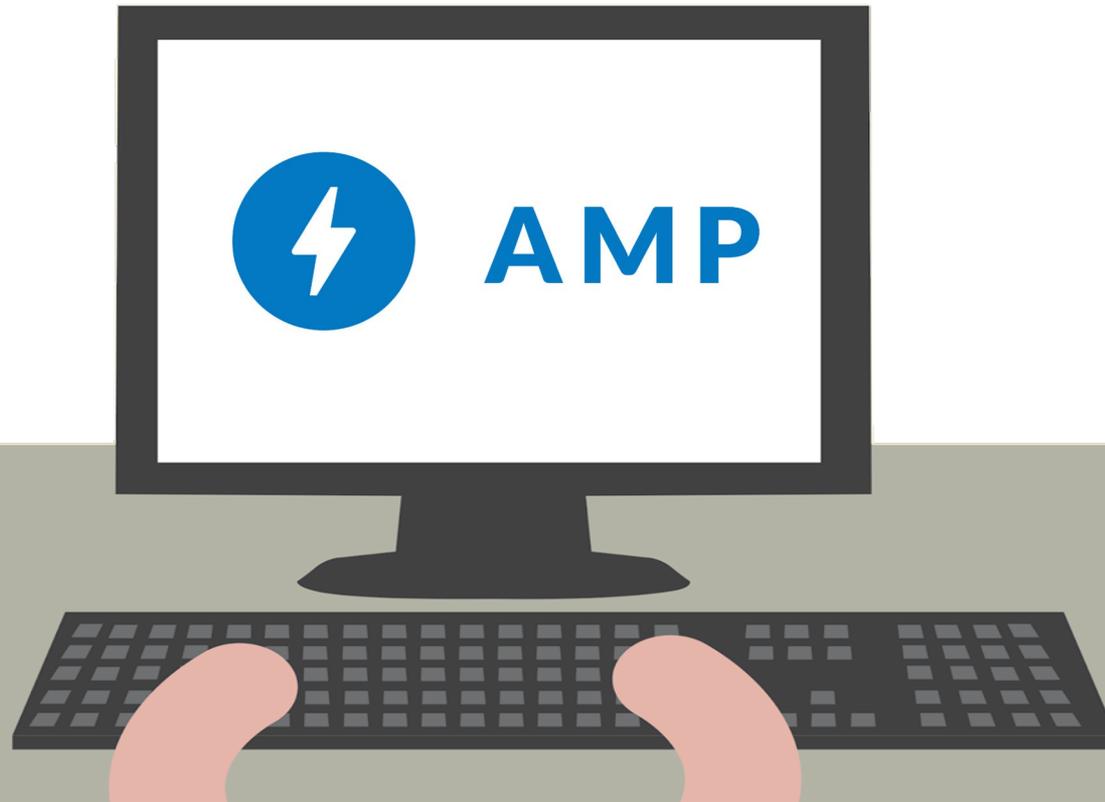
MyMSK Patient Portal integration (Send to Patient)



# Distribution

## Drupal 8

Accelerated Mobile Pages (AMP)



## Drupal 8

### Accelerated Mobile Pages (AMP)

- Google backed project
- Helps pages load faster on mobile devices



## 2-Gram Sodium Diet

[View on MSKCC.org](#)

This information explains what you can eat while you're following a 2-gram sodium diet.

### About a 2-Gram Sodium Diet

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This diet can be used to manage:

- Heart disease





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# Feedback



# Feedback

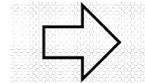
## Drupal 8

### Feedback Form

#### Tell Us What You Think

Your feedback will help us improve the information we provide to patients and caregivers.

[Provide feedback »](#)



### Tell Us What You Think

It was easy to find the information I was looking for.

- Strongly disagree
- Disagree
- Neither
- Agree
- Strongly agree

The information on this website is easy to understand.

- Strongly disagree
- Disagree
- Neither
- Agree
- Strongly agree

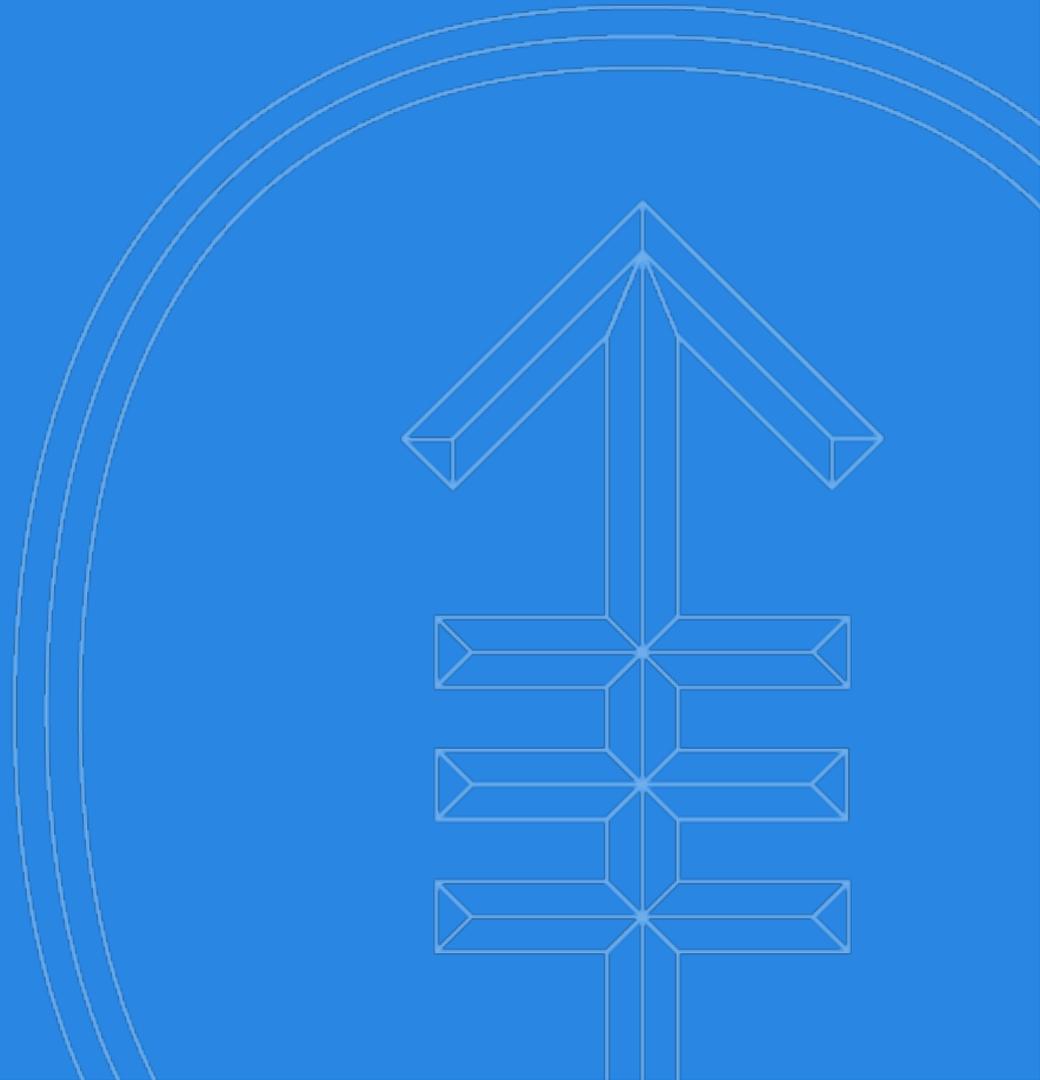




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# Thank You

Visit us at [www.mskcc.org/pe](http://www.mskcc.org/pe)





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# Questions

