VPAT Accessibility Conformance Report

(Based on ITI VPAT©)

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| **Name of Product** | **eBooks - ePub** |
| **Date Last Updated** | **July 3, 2025** |
| Completed by | **Nicola Richardson** (Elsevier Digital Accessibility Team) |
| **Applicable Standards/Guidelines** | This document rates eBooks - ePub according to the [W3C WCAG 2.1 A and AA](https://www.w3.org/TR/WCAG21/) requirements. |
| **Contact for More Information** | Elsevier Digital Accessibility Teamaccessibility@elsevier.com |
| **Testing Tools and Methods** | * **Hands-on keyboard operation**
* **DevTools/Code inspection**
* **Mozilla Firefox 128.10.1, Chrome 137.0.7151.104 on Mac Sequoia 15.5**
* **Chrome 134 on Windows 10**
* **NVDA screen reader 2024.3.1**
* Calibre 8.4 on Mac Sequoia 15.5
* VitalSource Bookshelf web app (Firefox/Mac and Chrome/Windows)
* **EPUBCheck 5.2.1**
* **ACE by DAISY automatic WCAG checker 1.3.6**
* **Color Contrast Analyzer**
* **axe DevTools using axe-core 4.10.3**
* **IBM Equal Access Accessibility Checker 4.0.5**
* [Benetech Globally Certified Accessible](https://bornaccessible.benetech.org/certified-publishers/)
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| **Document Sections** | This review document includes all WCAG 2.1 A and AA checkpoints, organized into 7 logical sections: * Visuals
* Keyboard
* Headings and Structure
* Labeling
* Multimedia
* Usability
* Mobile User Experience
 |
| **Books Covered** | * *Flow Cytometry in Immuno-Oncology,* first edition, Marcello Pinti and Andrea Cossarizza.
* *Library Space Planning and Design: Best Practices And Case Studies from Special, Academic, and Rare Book Libraries*, first edition, Alexander Cohen, MLS.
* *Evaluation and Management of Hip and Knee Arthritis* in Women, first edition, Claudette M. Lajam (for media criteria only)
 |
| **Terms** | * **Supports: The functionality of the product has at least one method that meets the criteria without known defects or meets with equivalent facilitation.**
* **Partially supports: Some functionality of the product does not meet the criteria.**
* **Does not support: Majority of functionality of the product does not meet the criteria.**
* **Supports (N/A): According to W3C on conformance, "If there is no content to which a success criterion applies, the success criterion is satisfied."**
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| **Notes/Terminology** | * **“AT” stands for Assistive Technology such as screen readers, voice input, etc.**
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## Conformance Summary

| **WCAG 2.1 Success Criterion**  | **Level** | **Evaluation** |
| --- | --- | --- |
| 1.1.1: Non-text Content | A | Partially supports |
| 1.2.1: Audio-only and Video-only (Prerecorded) | A | Supports (N/A) |
| 1.2.2: Captions (Prerecorded) | A | Supports |
| 1.2.3: Audio Description or Full Text Alternative | A | Does not support |
| 1.2.4: Captions (Live) | AA | Supports (N/A) |
| 1.2.5: Audio Description | AA | Does not support |
| 1.3.1: Info and Relationships | A | Supports |
| 1.3.2: Meaningful Sequence | A | Supports |
| 1.3.3: Sensory Characteristics | A | Supports |
| 1.3.4: Orientation (2.1) | AA | Supports |
| 1.3.5: Identify Input Purpose (2.1) | AA | Supports (N/A) |
| 1.4.1: Use of Color | A | Partially supports |
| 1.4.2: Audio Control | A | Supports (N/A) |
| 1.4.3: Contrast (Minimum) | AA | Partially supports |
| 1.4.4: Resize text | AA | Supports |
| 1.4.5: Images of Text | AA | Partially supports |
| 1.4.10: Reflow (2.1) | AA | Supports |
| 1.4.11: Non-Text Contrast (2.1) | AA | Supports |
| 1.4.12: Text Spacing (2.1) | AA | Supports |
| 1.4.13: Content on Hover or Focus (2.1) | AA | Supports (N/A) |
| 2.1.1: Keyboard | A | Supports |
| 2.1.2: No Keyboard Trap | A | Supports |
| 2.1.4: Character Key Shortcuts (2.1) | A | Supports (N/A) |
| 2.2.1: Timing Adjustable | A | Supports (N/A) |
| 2.2.2: Pause, Stop, Hide | A | Supports (N/A) |
| 2.3.1: Three Flashes or Below Threshold | A | Supports (N/A) |
| 2.4.1: Bypass Blocks | A | Supports (N/A) |
| 2.4.2: Page Titled | A | Supports |
| 2.4.3: Focus Order | A | Partially supports |
| 2.4.4: Link Purpose (In Context) | A | Supports |
| 2.4.5: Multiple Ways | AA | Supports |
| 2.4.6: Headings and Labels | AA | Supports |
| 2.4.7: Focus Visible | AA | Supports |
| 2.5.1: Pointer Gestures (2.1) | A | Supports (N/A) |
| 2.5.2: Pointer Cancellation (2.1) | A | Supports |
| 2.5.3: Label in Name (2.1) | A | Partially supports |
| 2.5.4: Motion Actuation (2.1) | A | Supports (N/A) |
| 3.1.1: Language of Page | A | Supports |
| 3.1.2: Language of Parts | AA | Supports |
| 3.2.1: On Focus | A | Supports |
| 3.2.2: On Input | A | Supports (N/A) |
| 3.2.3: Consistent Navigation | AA | Supports (N/A) |
| 3.2.4: Consistent Identification | AA | Supports (N/A) |
| 3.3.1: Error Identification | A | Supports (N/A) |
| 3.3.2: Labels or Instructions | A | Supports (N/A) |
| 3.3.3: Error Suggestion | AA | Supports (N/A) |
| 3.3.4: Error Prevention (Legal, Financial, Data) | AA | Supports (N/A) |
| 4.1.1: Parsing | A | Supports |
| 4.1.2: Name, Role, Value | A | Supports |
| 4.1.3: Status Messages (2.1) | AA | Supports (N/A) |

## WCAG 2.1 A and AA Success Criteria

### Visuals

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| **WCAG 2.1****Checkpoint** | **Conformance Level** | **Remarks** |
| [1.1.1: Non-Text Content](https://www.w3.org/TR/WCAG21/#non-text-content) (A)Provide text alternatives for non-text content (e.g. images) | Partially supports | Most images have appropriate text equivalents either on the image itself or contained in the immediately surrounding text. Complex images are generally well detailed with long descriptions.**Exceptions:*** Some text alternatives may not fully detail the visual information required to understand the purpose of the image.
* Some text alternatives may include detail or situational references which stray from the topic of the surrounding context, potentially requiring some interpretation from the reader.
* Publication cover images lack appropriate text alternatives.
 |
| [1.3.3: Sensory Characteristics](https://www.w3.org/TR/WCAG21/#sensory-characteristics) (A)Do not rely on sensory characteristics of components such as shape, size, visual location, orientation, or sound | Supports | There are no instructions or areas of content which rely solely on sensory characteristics.**Remarks:*** There are instances where general terms such as ‘above’ or ‘below’ may be used to direct attention to significant content, such as informational figures or instructions. In such cases the related content is also contextually identifiable.
 |
| [1.4.1: Use of Color](https://www.w3.org/TR/WCAG21/#use-of-color) (A)Color is not used as the only visual means of conveying info | Partially supports | In most instances, when color is used as a means of conveying information, another visual method is also used to convey the information without color. Text-based links and buttons are typically identified in parenthesis or with bold font styling, in addition to color. Where author-supplied images use color to identify data-related trends, figure captions typically provide alternate instructions to identify such information.**Exceptions:*** Some text-based buttons may only be identifiable by color. In these cases, the color used does not meet the minimum required ratio with surrounding text (2.4:1).
 |
| [1.4.3: Color Contrast (Minimum)](https://www.w3.org/TR/WCAG21/#contrast-minimum) (AA)Text has enough contrast with the background (4.5:1 for small text and 3:1 for large text) | Partially supports | Most text has sufficient contrast with its corresponding default background.**Exceptions:*** Images of text on publication covers may not meet the required minimum contrast ratio.

**Note:** color contrast was assessed on a white background. Some reading tools may allow colors to be adjusted which may, in turn, impact the presented contrast ratios. |
| [1.4.4: Resize Text](https://www.w3.org/TR/WCAG21/#resize-text) (AA)Text can be enlarged up to 200% without loss of functionality. | Supports | Text may be enlarged to 200% while preserving functionality and readability of the content. |
| [1.4.5: Images of Text](https://www.w3.org/TR/WCAG21/#images-of-text) (AA)Text is used rather than images of text, except where the presentation of text is essential, such as logos | Partially supports | In most cases, images of text are essential, for example, diagrams and photographs of hand-written content. In many instances the text contained in images is incidental to the main visual information being conveyed.**Exceptions:*** Some publication copyright and contributor information may be presented as images of text
* There may be rare cases where math equations are presented as images of text, rather than using more semantic markup. The surrounding text or figure caption may provide some contextual information, but this may not be sufficient for all to understand the related equation.
 |
| [1.4.10: Reflow](https://www.w3.org/TR/WCAG21/#reflow)(AA)Content can be presented without loss of information or functionality, and without requiring scrolling in two dimensions for:* Vertical scrolling content at a width equivalent to 320 CSS pixels;
* Horizontal scrolling content at a height equivalent to 256 CSS pixels..
 | Supports | Publication pages may be viewed at smaller screen sizes, or high levels of zoom, without necessitating horizontal scrolling, nor loss of functionality/content.**Note:** where publications contain data tables, these may require horizontal scrolling at smaller screen sizes, this is a permitted exception. |
| [1.4.11: Non-Text Contrast](https://www.w3.org/TR/WCAG21/#non-text-contrast) (AA)User interface components and graphical objects have a contrast ratio of at least 3:1 against adjacent color(s). | Supports | Graphical objects generally have at least a 3:1 contrast ratio against surrounding colors, except for essential presentations. Publications do not generally contain non-text UI components. |
| [1.4.12: Text Spacing](https://www.w3.org/TR/WCAG21/#text-spacing) (AA)In content implemented using markup languages that support the following text style properties, no loss of content or functionality occurs by setting all the following and by changing no other style property:* Line height (line spacing) to at least 1.5 times the font size;
* Spacing following paragraphs to at least 2 times the font size;
* Letter spacing (tracking) to at least 0.12 times the font size;
* Word spacing to at least 0.16 times the font size.
 | Supports | Users may adjust the text spacing of content on publication pages to the minimum baseline properties without causing loss of content or functionality. |
| [1.4.13: Content on Hover or Focus](https://www.w3.org/TR/WCAG21/#content-on-hover-or-focus) (AA)Where receiving and then removing pointer hover or keyboard focus triggers additional content to become visible and then hidden, the following are true:* Dismissible
* Hoverable
* Persistent
 | Supports (N/A) | No applicable instances of content that may appear on hover or focus were identified. |
| [2.3.1: Three Flashes or Below Threshold](https://www.w3.org/TR/WCAG21/#three-flashes-or-below-threshold) (A)No more than three flashes in a 1-second period, or the flashes are below the defined thresholds | Supports (N/A) | No flashing content was identified. |

### Keyboard

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| **WCAG 2.1****Checkpoint** | **Conformance Level** | **Remarks** |
| [1.3.2: Meaningful Sequence](https://www.w3.org/TR/WCAG21/#meaningfuusequence) (A)The correct reading sequence can be programmatically determined | Supports | The correct reading sequence is typically logical and programmatically determinable, with the DOM order according with the visual order.**Note:** The ability to reach footnote popover content when using a screen reader may depend on the compatibility of the reading tool and chosen AT. |
| [2.1.1: Keyboard](https://www.w3.org/TR/WCAG21/#keyboard) (A)All functionality is available from a keyboard, except for tasks such as drawing | Supports | Interactive content can be reached and operated via keyboard alone. Links can be activated and buttons which reveal tooltips can be operated by keyboard alone. |
| [2.1.2: No Keyboard Trap](https://www.w3.org/TR/WCAG21/#no-keyboard-trap) (A)The user can use the keyboard to move through page elements and is not trapped on a particular element | Supports | Interactive content can be traversed forwards and backwards without any keyboard traps. |
| [2.1.4: Character Key Shortcuts](https://www.w3.org/TR/WCAG21/#character-key-shortcuts) (A)If a keyboard shortcut is implemented in content using only letter (including upper- and lower-case letters), punctuation, number, or symbol characters, then at least one of the following is true:* Turn off
* Remap
* Active only on focus
 | Supports (N/A) | No character key shortcuts identified.**Note:** while the publications themselves do not implement any character key shortcuts, the tool used to read the documents may provide such functionality. |
| [2.4.3: Focus Order](https://www.w3.org/TR/WCAG21/#focus-order) (A)Users can tab through the elements of a page in a logical order | Partially supports | Interactive elements are reachable in a predictable and logical order.**Exceptions:*** Once revealed, non-interactive tooltips are added to the page focus order.
 |
| [2.4.7: Focus Visible](https://www.w3.org/TR/WCAG21/#focus-visible) (AA)The page element with the current keyboard focus has a visible focus indicator | Supports | Interactive elements in documents have visible focus indicators. Publication focus indicatorsuse the default browser or book reader styling. |
| [3.2.1: On Focus](https://www.w3.org/TR/WCAG21/#on-focus) (A)When a UI component receives focus, this does not trigger unexpected actions. | Supports | Focusable elements do not cause unexpected actions/changes of context when receiving focus. |

### Headings and Structure

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| **WCAG 2.1****Checkpoint** | **Conformance Level** | **Remarks** |
| [1.3.1: Information and Relationships](https://www.w3.org/TR/WCAG21/#info-and-relationships) (A)Info, structure, and relationships can be programmatically determined | Supports | Most content is distinguishable via semantic structure and relationships. Document-specific landmarks - such as chapters, footnotes, references, and page lists - are used to identify page regions. Table of contents, page lists, and page breaks are programmatically identifiable. A logical heading order reflects page organization. Lists are typically used appropriately to match visual presentation with programmatic information, with distinctions made between ordered and unordered content. Tables have semantically correct markup, with headers programmatically defined. Content is structured with appropriate sectioning elements, such as <section>, and contains appropriate headings for each section of content. |
| [2.4.1: Bypass Blocks](https://www.w3.org/TR/WCAG21/#bypass-blocks) (A)Users can bypass repeated blocks of content. | Supports (N/A) | While chapters may have similar blocks of content, such as key terms, they are distinct per chapter and therefore do not require a mechanism to bypass. **Note:** The reading system used may provide additional features to aid quick navigation. For example, text search is available across most book reading apps, and browser-based apps can benefit from browser text search. Other common features include tables of contents, lists of figures, lists of tables, lists of landmarks, and an index. |
| [2.4.6: Headings and Labels](https://www.w3.org/TR/WCAG21/#headings-and-labels) (AA) Headings and labels are clear and consistent. | Supports | Headings used are clear and descriptive. For example, chapters feature visually distinct main and secondary headings to help distinguish content. |
| [3.1.1: Language of Page](https://www.w3.org/TR/WCAG21/#language-of-page) (A)The language of the page is specified | Supports | The default publication language is appropriately defined in the `lang` attribute. In addition, matching language codes are provided in the `xml:lang` and `dc:language` attributes in accordance with the EPUB 3 specification.**Note:** The publications assessed were only available in English. |
| [3.1.2: Language of Parts](https://www.w3.org/TR/WCAG21/#language-of-parts) (AA)Specify the language of text passages that are in a different language than the default language of the page. | Supports | Publications contain no sections of text that do not match the default language of the page, or which would be considered outside the vernacular of the surrounding text. |
| [4.1.1: Parsing](https://www.w3.org/TR/WCAG21/#parsing) (A)Use valid, error-free HTML | Supports | HTML and CSS typically pass concerning these 4 specific criteria: 1. elements have complete start and end tags,
2. elements are nested according to their specifications
3. elements do not contain duplicate attributes
4. any IDs are unique, except where the specifications allow these features.

Note: There may be other general HTML validation errors outside the scope of this criterion. WCAG 2.1 Errata notes: “This Success Criterion should be considered as always satisfied for any content using HTML or XML.” |

### Labeling

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| **WCAG 2.1****Checkpoint** | **Conformance Level** | **Remarks** |
| [1.3.5: Identify Input Purpose](https://www.w3.org/TR/WCAG21/#identify-input-purpose) (AA)The purpose of each input field collecting information about the user can be programmatically determined when:* The input field serves a purpose identified in the Input Purposes for User Interface Components section; and
* The content is implemented using technologies with support for identifying the expected meaning for form input data.
 | Supports (N/A) | No form fields collecting information about the user were identified. |
| [2.4.2: Page Titled](https://www.w3.org/TR/WCAG21/#page-titled) (A)The page has a title describing its topic or purpose | Supports | Publications have descriptive and relevant titles provided. |
| [2.4.4: Link Purpose (In Context)](https://www.w3.org/TR/WCAG21/#link-purpose-in-context) (A)The purpose of each link can be determined from the link text or surrounding context. | Supports | An identifiable purpose may be deduced for links from the link text or surrounding context. |
| [2.5.3: Label in Name](https://www.w3.org/TR/WCAG21/#label-in-name) (A)For user interface components with labels that include text or images of text, the name contains the text that is presented visually. | Partially supports | Many user interface components that have visible text contain that text consistently within the accessible name.**Exceptions:*** Buttons which reveal content on activation do not contain the visible text in their accessible name.
 |
| [3.2.4: Consistent Identification](https://www.w3.org/TR/WCAG21/#consistent-identification) (AA)UI components used across the web site are identified consistently on every page. | Supports (N/A) | Publications do not generally contain repeated UI components. |
| [3.3.1: Error Identification](https://www.w3.org/TR/WCAG21/#error-identification) (A)Input errors are clearly marked and described to the user. | Supports (N/A) | No form fields requiring user input were identified. |
| [3.3.2: Labels or Instructions](https://www.w3.org/TR/WCAG21/#labels-or-instructions) (A)Items requiring user input are clearly labeled or have clear instructions. | Supports (N/A) | No form fields requiring user input were identified |
| [3.3.3: Error Suggestion](https://www.w3.org/TR/WCAG21/#error-suggestion) (AA)When the user makes an input error, give suggestions for valid input. | Supports (N/A) | No form fields requiring user input were identified. |
| [4.1.2: Name, Role, Value](https://www.w3.org/TR/WCAG21/#name-role-value) (A)For all UI components, the name, value, and role can be programmatically determined. | Supports | Interactive UI components, such as text-based links and buttons, have accessible names and appropriate roles defined. Video controls are provided by the native browser HTML <video> element.**Note:** See 2.5.3 Label in Name for instances where the accessible name provided to specific components may not be appropriate. |
| [4.1.3: Status Messages](https://www.w3.org/TR/WCAG21/#status-messages) (AA)In content implemented using markup languages, status messages can be programmatically determined through role or properties such that they can be presented to the user by assistive technologies without receiving focus. | Supports (N/A) | No applicable instances of status messages were identified. |

### Multimedia

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| **WCAG 2.1****Checkpoint** | **Conformance Level** | **Remarks** |
| [1.2.1: Audio-only or Video-only (Prerecorded)](https://www.w3.org/TR/WCAG21/#audio-only-and-video-only-prerecorded) (A)Provide alternatives for pre-recorded audio-only or video-only content. | Supports (N/A) | No pre-recorded audio-only or video-only content was identified. |
| [1.2.2: Captions (Prerecorded)](https://www.w3.org/TR/WCAG21/#captions-prerecorded) (A)Provide captions for pre-recorded audio | Supports | Closed captions are provided for synchronized audio/video content. Captions detail spoken words as well as meaningful sounds.**Note:** Some videos demonstrate medical procedures where there are competing sounds and unscripted verbal content. In some cases, due to the overlapping of situational sounds and lack of a formal script, captions do not always fully capture the spoken words. |
| [1.2.3: Audio Description or Media Alternative (Prerecorded)](https://www.w3.org/TR/WCAG21/#audio-description-or-media-alternative-prerecorded) (A)Provide alternatives for pre-recorded synchronized audio/video | Does not support | While not a prominent content type, with most book content being text-based, synchronized audio/video media does not have accompanying transcripts, and the surrounding text does not fully describe the visual content. Audio description is not provided. |
| [1.2.4: Captions (Live)](https://www.w3.org/TR/WCAG21/#captions-live) (AA)Provide captions for live audio in synchronized audio/video. | Supports (N/A) | No live synchronized audio/video content was identified. |
| [1.2.5: Audio Description (Prerecorded)](https://www.w3.org/TR/WCAG21/#audio-description-prerecorded) (AA)Provide an audio description of pre-recorded video. | Does not support | Audio description is not provided for video content in synchronized audio/visual media. |
| [1.4.2: Audio Control](https://www.w3.org/TR/WCAG21/#audio-control) (A)Audio can be paused and stopped, or the audio volume can be changed. | Supports (N/A) | No audio that plays automatically was identified.  |
| [2.2.2: Pause, Stop, Hide](https://www.w3.org/TR/WCAG21/#pause-stop-hide) (A)Users can stop, pause, or hide moving, blinking, scrolling, or auto-updating information. | Supports (N/A) | No moving, scrolling, or auto-updating information for which the criterion is applicable was identified.  |

### Usability

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| **WCAG 2.1****Checkpoint** | **Conformance Level** | **Remarks** |
| [2.2.1: Timing Adjustable](https://www.w3.org/TR/WCAG21/#pause-stop-hide) (A)Users are warned of time limits shorter than 20 hours and time limits can be turned off or extended | Supports (N/A) | No applicable time limits set by the content were identified. |
| [2.4.5: Multiple Ways](https://www.w3.org/TR/WCAG21/#multiple-ways) (AA)More than one way is available to navigate to other web pages. | Supports | Publications include documents in the spine as well as providing a table of contents with links to key sections. Reading system navigational aids are also available to users, for example: text search, tables of contents, lists of figures, lists of tables, lists of landmarks, and an index. |
| [3.2.2: On Input](https://www.w3.org/TR/WCAG21/#on-input) (A) Changing the setting of a checkbox, radio button, or other UI component does not trigger unexpected changes in context. | Supports (N/A) | No interactive components requiring user input were identified. |
| [3.2.3: Consistent Navigation](https://www.w3.org/TR/WCAG21/#consistent-navigation) (AA)Navigation menus are in the same location and order on every web page. | Supports (N/A) | Elsevier eBook titles do not provide traditional navigation menus.**Note:** Individual eBook reader apps provide navigation menus. Consult eBook reader app VPAT/ACR for conformance information. |
| [3.3.4: Error Prevention (Legal, Financial, Data)](https://www.w3.org/TR/WCAG21/#error-prevention-legal-financial-data) (AA)For web pages with legal or financial commitments, input can be reviewed and corrected before final submission, and submissions can be reverted. | Supports (N/A) | No submissions which require legal or financial commitments were identified. |

### Mobile User Experience

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| **WCAG 2.1****Checkpoint** | **Conformance Level** | **Remarks** |
| [1.3.4: Orientation](https://www.w3.org/TR/WCAG21/#orientation) (AA)Content does not restrict its view and operation to a single display orientation, such as portrait or landscape, unless a specific display orientation is essential. | Supports | Publications do not restrict view and operation of content to a single orientation. |
| [2.5.1: Pointer Gestures](https://www.w3.org/TR/WCAG21/#pointer-gestures) (A)All functionality that uses multipoint or path-based gestures for operation can be operated with a single pointer without a path-based gesture, unless a multipoint or path-based gesture is essential. | Supports (N/A) | No functionality requiring multipoint or path-based gestures was identified. |
| [2.5.2: Pointer Cancellation](https://www.w3.org/TR/WCAG21/#pointer-cancellation) (A)For functionality that can be operated using a single pointer, at least one of the following is true:* No Down-Event
* Abort or Undo
* Up Reversal
* Essential
 | Supports | All interactive content functions through the Up-Event, allowing users to potentially move their pointer off the component to cancel. |
| [2.5.4: Motion Actuation](https://www.w3.org/TR/WCAG21/#motion-actuation) (A)Functionality that can be operated by device motion or user motion can also be operated by user interface components and responding to the motion can be disabled to prevent accidental actuation, except when:* Supported Interface
* Essential
 | Supports (N/A) | No content utilizing device or user motion was identified. |