



# MyndXR Application Guide and Clinical Implementation

Welcome to the **Mynd Immersive XR Application Guide and Clinical Implementation Handbook**. This resource is designed to help therapists integrate MyndXR, an advanced immersive therapeutic system, into their practice. Mynd transforms therapy sessions into more engaging and enjoyable experiences, making them more tolerable for clients while maintaining the effectiveness of traditional methods.

MyndXR can be seamlessly used alongside established therapeutic interventions such as therapeutic exercise (CPT 97110), neuromuscular reeducation (CPT 97112), and therapeutic activities (CPT 97530). By offering virtual environments and interactive exercises, MyndXR adds an engaging dimension to these procedures, fostering deeper client involvement.

Additionally, the new Category III billing code 0770T is available for documentation purposes, acknowledging the role of XR technologies in modern therapy. This code allows therapists to document the use of Mynd as an innovative tool in their sessions.

In this handbook, you'll find instructions for setting up and using MyndXR, along with guidelines for integrating it into your therapeutic practice. Mynd Immersive is here to help you enhance client experiences and outcomes, making therapy sessions not just effective, but also enjoyable and interactive.

## Applicable CPT Codes when using MyndXR:

97112- Neuromuscular Re-education

97110- Therapeutic Exercise

97530- Therapeutic Activity

97535- Home Safety

## Safety

- Gait belt on patient
- Never leave patient unattended
- Patient will remain within an arm's length
- Sanitize the Headset between patient use

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# Applications

## Senior Safety

### How to Use

**Tablet:** When you first open the application, there are two modules displayed on the Tablet; a bathroom module and a kitchen module. Once you select the desired module on the Tablet, you will see a screen with “viewpoints” and “situations”. Clicking a viewpoint will change the position of the user in the Headset. Once you are in the desired viewpoint, you can then go through the situations that correspond to each viewpoint. Tapping on a “situation” on the Tablet will essentially deselect it. On the Tablet, the selected situation will turn gray, and it will also disappear from the view in the Headset.

**Controllers:** No Controller is needed for this application.

**Headset:** Once you select a module on the Tablet, the patient will be brought to that room in the Headset. The objective is for the patient to verbally communicate the hazardous situations that they see around them. As they communicate these hazards, the therapist can deselect them from the Tablet, and they will disappear in the Headset.

## Therapy Room

**Purpose:** Identify safety hazards in a simulated bathroom or kitchen.

- Bathroom: 18 Situations Total
  - Sink viewpoint: 6 Situations
  - Floor viewpoint: 8 Situations
  - Tub viewpoint: 4 Situations
- Kitchen: 17 Situations Total
  - Sink viewpoint: 4 Situations
  - Stove viewpoint: 5 Situations
  - Counter viewpoint: 2 Situations
  - Floor viewpoint: 4 Situations
  - Fridge viewpoint: 1 Situation
  - Dishwasher viewpoint: 1 Situation

**Approximate Duration:** 7-15 minutes

**Sample Documentation:** Patient correctly identified \_\_/17 safety hazards with \_\_% verbal cues while seated in a chair independently/standing with a rolling walker with contact guard assist for 10 minutes to improve safety awareness and decrease risk of falls.

**Audience:** Appropriate for high level patients, mild to moderate cognitive impairment with good verbal skills. Residents in IL, AL, MC, and SNF.

**Position:** Can be performed seated or standing.

# Fishing

## How to Use

**Tablet:** Once inside the application, start by selecting “Edit Fish” to set the desired parameters. Using the controls in the center of the Tablet screen, you can adjust the fish position, the difficulty level, the dominant hand, and the height of the bucket. These parameters are set individually for each fish.

After configuring the desired parameters, select “Add Fish” to send the specific fish pattern to the fish table. The fish table includes default patterns, which can be removed by tapping the “X” next to any pattern.

Once the fish table is finalized, select “Send to Glasses.” The active fish pattern will appear with a red fish symbol on the fish table, while all other patterns will display pink symbols. The user will catch each fish one at a time. As the user catches each fish, the symbols on the fish table will change to green. To clear all existing fish patterns from the fish table, tap the “Clear History” button.

**Controllers:** On Easy Mode, only one Controller is required to complete the activity. On Medium and Hard modes, both Controllers are needed. If the Controllers are not already paired with the Headset, press the HTC VIVE button on the right-hand Controller and the menu button on the left-hand Controller. Each Controller will vibrate and then pair with the Headset. The Controller used to reel in the fish is determined by the difficulty level of each fish pattern, while the dominant hand is set via the “Fishing Rod Hand” setting on the Tablet. Both the trigger and grip buttons perform the same function, allowing the user to choose whichever is most comfortable.

**Headset:** After the fish patterns are sent to the Headset, the user can then begin fishing. A circle will appear in the water to show where to aim for the first catch.

For instructions on how to complete the activity in the Headset, refer to the difficulty level breakdown below. On the Tablet screen, you can select “Show Instructions” to enable step-by-step prompts in the Headset to help guide the user through the activity. This feature is especially helpful for new users who are unfamiliar with the Fishing application. To turn off these prompts, simply select “Hide Instructions” on the Tablet.

### Difficulty Levels

- **Easy:** Easy Mode is designed for maximum accessibility, allowing users to catch fish without pressing any buttons. To cast, the user will simply take the appropriate Controller, pull the fishing rod back over their shoulder, and then move it forward while aiming at the fish. In Easy Mode, however, accuracy doesn’t matter—it’s impossible to miss.

Once a fish is hooked, it will automatically reel in toward the user. A green checkmark will appear inside the Headset to confirm the catch, and the application will automatically proceed to the next fish pattern in the fish table.

- **Medium:** When the Medium difficulty level is selected, casting does not require pressing any buttons on the Controllers. The user will simply take the appropriate Controller, pull the fishing rod back over their shoulder, and then move it forward while aiming at the fish—just like in real fishing.

To start reeling in after a fish is hooked, the user will press and hold the trigger or grip button on the same Controller holding the fishing rod.

After reeling in the fish completely, the user must grab it. To do so, they will take the opposite Controller, move it to where the fish is hovering in front of them, and press and hold either the trigger or grip button to grab it. Then, they will move the fish over to the bucket and release the button to drop it. Ensure the fish is dropped inside the ring floating above the bucket for a successful catch.

- **Hard:** In Hard Mode, the fishing mechanics are more advanced, requiring increased coordination and precision from the user. To cast, the user will press and hold the trigger or grip button and pull the fishing rod back over their shoulder. The user will then then move the rod forward while aiming at the fish and release the button to complete the cast.

Reeling in the fish requires using the opposite Controller. To reel, the user will move the opposite Controller to the reel, press and hold the trigger or grip button, and rotate their hand forward in a circular motion, replicating the action of reeling in a real fish.

Once the fish is fully reeled in, the user must grab it using the same Controller they used to reel. They will move the controller to where the fish is hovering in front of them, press and hold either the trigger or grip button to grab it, then move the fish over to the bucket and release the button to drop it. Ensure the fish is dropped inside the ring floating above the bucket for a successful catch.

## Therapy Room

**Purpose:** Simulate fishing in a serene environment to emphasize attention to task and therapeutic activity for upper extremities and trunk.

- The therapist will customize the difficulty level, dominant hand, position of the fish, and height of the bucket to collect the fish in order to meet the functional needs and goals of the patient.

**Approximate Duration:** 15-25 minutes

**Sample Documentation:** Patient used virtual reality to simulate fishing activity to catch 8/8 fish while sitting/standing while using patient's dominant hand for 15 minutes. Min tactile and visual cues (bucket height) were given to increase shoulder flexion from shoulder height to ear level in order to facilitate independence with donning shirt/reaching overhead.

**Audience:** Appropriate for all level patients, mild cognitive impairment, no verbal skills required. Residents in IL, AL, SNF.

**Position:** Can be performed seated or standing.

# Oroi Cognitive

## How to Use

**Tablet:** Inside the Oroi application are 6 different cognitive activities. Simply click on the desired activity to begin. Once you have selected the activity and set any necessary parameters, click "Start" to begin the activity. The Tablet will remain on the same screen while the activity begins in the Headset.

If you want to change the parameters of an activity, or switch activities altogether, you will need to exit the current activity on the Tablet and begin again.

**Controllers:** If both Controllers are powered on, the application will default to the right-hand Controller. If neither Controller is powered on, press the HTC VIVE/Menu button on the desired Controller. The Controller will vibrate and will then pair with the Headset. Once paired, the Controller will display a white laser in the Headset.

**Headset:** Once an activity is selected on the Tablet, the Headset will switch to that activity. Once the activity starts, there will be spoken instructions, so make sure to have the volume turned up if you would like to hear the instructions. Each activity requires 1 Controller to complete the activities. After an activity is complete, you will hear a positive celebration sound. Once the activity is complete, the user can select the "refresh" icon in the Headset to start the activity again.

## 1. Balloons Cognitive

This activity requires the user to use the Controller to pop balloons in ascending or descending order. You can use the toggles on the Tablet to adjust the total number of balloons the user will need to pop. You can also adjust the number of rows of balloons that are displayed in the Headset.

### Therapy Room

**Purpose:** Use arm movement to pop the balloons in sequential or random order.

- Number of lines: 1-4
- Number of balloons: 1-15
- Sequence: Ascending, Descending, or Random

**Approximate Duration:** 5-20 minutes

**Sample Documentation:** Patient used dominant hand and crossed midline to pop 10 balloons in ascending order in 15 minutes while sitting on the edge of mat to challenge dynamic stability with min tactile cues for postural correction. Required 2 verbal cues for sequencing tasks.

**Audience:** Appropriate for all level patients, mild to severe cognitive impairment, minimal verbal skills required. Residents in IL, AL, MC, and SNF.

**Position:** Can be performed seated or standing.

## 2. Out of Place Cognitive:

This activity requires the user to identify 5 objects that are out of place. The user identifies them one at a time. Once the user selects the item that is out of place, the view will change to a new room with a new object that is out of place. Once the user selects all 5 items, the activity is complete. The user can then "refresh" the activity, which will display new objects that are out of place. Similarly, on the Tablet, you can exit the activity and start again to bring about new objects that are out of place.

## Therapy Room

**Purpose:** Visually scan the room to identify objects out of place.

- Preselected items, score is visualized by looking up

**Approximate Duration:** 5-20 minutes

**Sample Documentation:** Patient identified 5/5 objects in the room. Required 2 verbal cues to complete the puzzle while patient used dominant hand. Completed simulated activity using virtual reality while seated for 15 minutes. Min tactile cues were provided for upright posture and weight shifting while sitting/standing.

**Audience:** Appropriate for all level patients, mild to moderate cognitive impairment, minimal verbal skills required. Residents in IL, AL, MC, and SNF.

**Position:** Can be performed seated or standing.

## 3. Puzzle Cognitive

This activity has the user solve a puzzle. To adjust the difficulty level of the puzzle, use the Controller to select the arrows in the Headset. There are levels 1-5. Once you have selected a level of difficulty, you can select the "Refresh" button to change the puzzle picture.

Once you have the picture you want, use the Controller to select the image. This will break apart the pieces. Then, use the Controller to select the individual pieces and put them back together on the puzzle board.

## Therapy Room

**Purpose:** Arrange puzzles using arm movements.

- 5 Levels of difficulty

**Approximate Duration:** 5-10 minutes

**Sample Documentation:** Utilizing a virtual reality puzzle (Level \_\_\_ difficulty) following a top to bottom sequence by using their dominant hand to reach and manipulate pieces in sitting/standing. Completed the puzzle while seated/standing for 12 minutes. Min tactile cues were provided for upright posture and weight shifting while sitting/standing.

**Audience:** Appropriate for all level patients, mild to moderate cognitive impairment, minimal verbal skills required. Residents in IL, AL, MC, and SNF.

**Position:** Can be performed seated or standing.

## 4. Supermarket Cognitive

This activity has users select items from a grocery store and pay for them once they are all selected.

To start, use the Tablet to choose the "Variety of Items". This sets the number of different items that the user will have to add to the cart. You can also adjust the "Number of Items". For example, if you have the "Variety of Items" set to 1 and the "Number of Items" set to 2, the user will only have 1 type of food to select but will need to select it twice.

Once you have set the parameters and started the activity, there will be a shopping list that is attached to the Controller that the user can use as a reference for selecting the appropriate items. The user will be able to navigate through the grocery store

by clicking on the different sections at the top of the screen in the Headset. Once in the right section, find the desired food item, aim the Controller at the item, and pull the trigger to add it to the cart. Once all items are added to the cart, the user will be prompted to “checkout” by using the Controller to select the proper amount of cash.

## Therapy Room

**Purpose:** Grocery shopping experience, categorizing, identifying items, and paying for the items on the shopping list. Use arm movements, visual scanning, executive thinking, organizational, and planning skills.

- Variety of items to purchase: 1-10
- Number of items to purchase: 1-10

**Approximate Duration:** 10-25 minutes

**Sample Documentation:** Patient used virtual reality grocery store for IADL. Patient went to the correct grocery aisle for \_\_\_/\_\_\_ items on the list with 2 verbal cues. After getting all the \_\_\_ items in the grocery list, patient counted the money to pay for items with 100% accuracy with 1 verbal cue. Patient performed this cognitive task using their dominant hand while seated for 15 minutes. Supervision was provided for upright posture and weight shifting while sitting/standing.

**Audience:** Appropriate for all level patients, high cognitive demand with multiple steps to complete the task, mild cognitive impairment, minimal verbal skills required. Residents in IL, AL, MC, and SNF.

**Position:** Can be performed seated or standing.

## 5. Tidy Up the Room

This activity has the user find out-of-place objects, select them, and put them in the proper spot in the room. On the Tablet, you can choose the number of out-of-place objects, as well as the specific room type that the user will be placed in.

The “correct” spot for the item is shown as a purple outline of the object, while the actual object is shown normally somewhere else in the room. The user will aim the Controller at the actual object, select the object by pulling the trigger, move the object to the purple outline, and pull the trigger again to put the object back in place. The activity is complete once all out-of-place objects are correctly put back in place.

## Therapy Room

**Purpose:** Identify objects that are out of place. Use arm movements and visual scanning to place items back in their place.

- Select up to 8 objects at a time.
- 2 options for each setting: Bathroom 1 and 2, Bedroom 1 and 2, and Kitchen 1 and 2

**Approximate Duration:** 7-15 minutes

**Sample Documentation:** Patient used virtual reality to simulate identifying the object out of place in a bathroom setting. Correctly identified \_\_\_/\_\_\_ objects in \_\_ different scenarios while using patient’s dominant hand while seated for 10 minutes. Min tactile cues were provided for upright posture and weight shifting while sitting/standing. Moderate verbal cues provided for visual scanning towards the right.

**Audience:** Appropriate for all level patients, mild to moderate cognitive impairment, good verbal skills required. Residents in IL, AL, MC, and SNF.

**Position:** Can be performed seated or standing.

## 6. Identify Sounds Cognitive

This activity plays sounds and has the user select the objects in the room that are making that sound. Each room will play 3 sounds. Once all of the objects are identified, the user can select the refresh option on the Headset to bring about a new room with new sounds to identify. Similarly, on the Tablet, you can exit the activity and start again to bring about new sounds to identify.

### Therapy Room

**Purpose:** Identify familiar sounds, use arm movements and visual scanning to point at objects.

- Bathroom: 3 objects
- City street: 3 objects
- Farm: 3 objects
- Kitchen: 3 objects

**Approximate Duration:** 7-15 minutes

**Sample Documentation:** Patient used virtual reality to identify familiar sounds. Correctly identified \_\_\_/\_\_\_ objects in 4 different scenarios while using patient's dominant hand while seated for 10 minutes. Min tactile cues were provided for upright posture and weight shifting while sitting. Moderate verbal cues provided for visual scanning towards the right.

**Audience:** Appropriate for all level patients, mild to severe cognitive impairment, minimal verbal skills required. Residents in IL, AL, MC, and SNF.

**Position:** Can be performed seated or standing.

# Mynd Medication

## How to Use

**Tablet:** To begin, select the desired medication from the list on the left side of the Tablet screen. You can also add a custom medication name if desired. Once the medication is selected, its cycle will show up in the middle of the Tablet. From here, tap the days of the week that you want to set for that specific instance. Once you have the parameters set, tap "Send to Glasses" on the bottom of the Tablet screen.

**Controllers:** The user will need either the left-hand or right-hand Controller to complete the application. If the Controller is not already paired with the Headset, press the HTC VIVE button on the right-hand Controller. The Controller will vibrate and will then pair with the Headset. Once paired, the Controller will display a white laser in the Headset. To pair the left-hand Controller, press the menu button. The Controller will vibrate to indicate it has successfully paired with the Headset. Pull the trigger of the desired Controller, and the white laser will display from the chosen Controller.

**Headset:** Once you select "Send to Glasses" on the Tablet, the selected pill bottle will appear on the table in the left side of the Headset view. The user will aim the Controller at the pill bottle and pull the trigger to select it. This will bring the pill bottle closer to the pill box. The user will then aim and select the pill bottle a second time, which will bring the pill out of the bottle. Finally, the user will aim and select the day of the week and time of day (AM or PM) that corresponds to what was chosen on the Tablet.

In the Headset, when a pill bottle is selected, the user will see a large white screen that shows the instructions/parameters that were set on the Tablet. If the user makes an error when choosing where to put the pill, they will be shown a large red X.

### Important Points:

1. If you want to select both AM and PM, you must choose the medication and select the days of the week for both the AM and PM options.
2. You can send multiple pill bottles to the Headset at a time.
3. The "pills sorted" ratio shown at the bottom of the Tablet is the total number of pills over the number of pill bottles.
4. "Invalid Attempts" shown at the bottom of the Tablet tells you how many times the user made an incorrect choice when placing a pill into the pill box.

## Therapy Room

**Purpose:** Identify and sort medications in a pill box using the patient's dominant hand.

- The therapist will select medications from the list provided or custom write the medication, then will ask the patient to sort the pills using the Controller.

**Approximate Duration:** 7-15 minutes

**Sample Documentation:** Patient used virtual reality to simulate sorting medication into pillbox using patient's dominant hand while seated for 10 minutes. Min tactile cues were provided for upright posture. Patient sorted \_\_\_/\_\_\_ pills correctly with \_\_\_% verbal cues.

**Audience:** Appropriate for all level patients, mild cognitive impairment, minimal verbal skills required. Residents in IL, AL, SNF.

**Position:** Performed seated.

# Butterflies

## How to Use

**Controllers:** Once the application has loaded in the Headset, the user can take the right-hand Controller and begin catching butterflies. The Controller acts as the butterfly net. If the Controller is not already paired with the Headset, press the HTC VIVE button on the right-hand Controller. The Controller will vibrate and will then pair with the Headset. Once paired, the Controller will be able to control the butterfly net shown in the Headset. To pair the left-hand Controller, press the menu button. The Controller will vibrate to indicate it has successfully paired with the Headset.

**Tablet:** On the Tablet, you can choose whether to use right-hand only, left-hand only, or both hands. This is determined by the exercise sequence shown on the Tablet. The Butterflies application automatically begins with a right-hand sequence. When completing this sequence, the Headset will force you to use the right-hand Controller. To isolate left-hand only sequences, simply tap on the right-hand sequences and select the “x” icon at the bottom of the sequence list. This will delete the right-hand sequences one by one, and you will be left with only left-handed sequences which use the left-hand Controller.

Tapping on a sequence will highlight the sequence and allow you to control it. From here, you can:

1. Delete the sequence from the list by tapping the “x” icon.
2. Increase or decrease the number of butterflies in the sequence by tapping the “+” or “-” icons.
3. Play a desired sequence by selecting the arrow icon.

You also have the ability to add waves to the exercise sequence by selecting one of the options under the “Add Wave” section in the middle of the Tablet. These added waves will appear at the bottom of the sequence.

**Headset:** Once the sequence is set and the Controller is paired, the user can begin catching butterflies by waving around the correct Controller.

## Therapy Room

**Purpose:** Catch butterflies using the right and left nets within a PNF pattern. Once you catch 6 butterflies with the right hand, you will alternate to the left hand to catch another 6 butterflies. You can also adjust the number of butterflies in each sequence.

- Right net: 6 butterflies
- Left net: 6 butterflies

**Approximate Duration:** 7-25 minutes

**Sample Documentation:** Patient used virtual reality to simulate catching butterflies by alternating left and right hand to cross midline. Actively engaged in dynamic sitting/standing tolerance, and weight shifting for \_\_\_ minutes in order to [ **insert functional goal** i.e. reduce the risk of falls when sitting edge of bed ]. Required moderate verbal cues to switch hands and moderate contact guard assist for postural correction (i.e. tactile cues for posterior pelvic tilt).

**Audience:** Appropriate for all level patients, mild to severe dementia, minimal verbal skills required. Residents in IL, AL, SNF.

**Position:** Can be performed seated or standing (use parallel bars/rolling walker for additional support).

# Mynd Explorer

## How to Use

**Tablet:** To begin, you can either select an option from the “Quick Picks” button in the top left corner on the Tablet screen, or you can type in an address into the search bar. If you type in an address, you will want to make sure that the Tablet confirms it found the address.

Once a location is found, tap “Get Preview”. The small preview window on the Tablet screen will then be filled with a preview image. At this point, you can select “Send to Glasses” and the experience will then be displayed in the Headset.

**Headset:** As long as the Headset is connected to the Tablet, there is nothing to do in the Headset except observe the immersive experience. The experience is controlled entirely by the Tablet.

## Therapy Room

**Purpose:** Identify and visualize geographic location based on patient’s interests.

- The therapist will collaborate with the patient regarding their interest in selecting a geographic location, such as Yosemite National Park or a childhood home.

**Approximate Duration:** 3-15 minutes

**Sample Documentation:** Patient used virtual reality to identify a geographic location to verbally recall city and state while seated for 10 minutes. Min verbal cues were provided identifying 5 objects in the geographic location.

**Audience:** Appropriate for all level patients, mild cognitive impairment, good verbal skills required. Residents in IL, AL, SNF.

**Position:** Performed seated.

# Immersive Video/Mynd Stream

## How to Use

**Tablet:** Once in the application, select one of the categories listed on the Tablet. Once inside the category, the user will see the associated videos. Simply tap on one of the videos, and it will begin playing in the Headset.

On the Tablet, there is a “Play/Pause” button that can be used to control the video. There is also a “Stop” button that will bring the user back to the beach setting in the Headset. The “Return to Categories” button will return to the categories screen on the Tablet.

**Headset:** As long as the Headset is connected to the Tablet, there is nothing to do in the Headset except watch the videos. The experience is controlled entirely by the Tablet. If you want to adjust the volume of the videos, the volume button exists on the left earpiece of the Headset.

## Therapy Room

**Purpose:** Immerse the patient in a video for imagery, distraction, down-regulating the nervous system for pain management, anxiety, and improved participation in therapy.

- The therapist will collaborate with the patient regarding their interest to select a video that will assist with:
  - Relaxation: Meditation or nature video
  - Imagery: Meditation, nature, or animal video
  - Distraction: Broadway shows, Fort Worth Stockyard event, Veterans specific content

**Approximate Duration:** 3-30 minutes

**Sample Documentation:** Patient used virtual reality to down-regulate the nervous system by using non-pharmacological pain management strategies while doing manual therapy to reach knee flexion/extension post total knee replacement for 15 minutes. Provided Min verbal cues to engage deep core muscles for diaphragmatic breathing. Patient’s knee flexion improved 5 degrees from 100-105 degrees and reached 0 degrees of knee extension post treatment session so that patient can perform stair negotiation with an alternate stepping pattern.

**Audience:** Appropriate for all level patients, mild to severe cognitive impairment, minimal verbal skills required. Residents in IL, AL, MC, SNF.

**Position:** Performed seated or lying down supine.