

# Gaze Positions in Turns

## R Markdown

This is an R Markdown document. Markdown is a simple formatting syntax for authoring HTML, PDF, and MS Word documents. For more details on using R Markdown see <http://rmarkdown.rstudio.com>.

When you click the **Knit** button a document will be generated that includes both content as well as the output of any embedded R code chunks within the document. You can embed an R code chunk like this:

```
# Load the required libraries
library(openxlsx)
```

```
## Warning: package 'openxlsx' was built under R version 4.3.3
```

```
library(ggplot2)
```

```
## Warning: package 'ggplot2' was built under R version 4.3.3
```

```
# Define the function to create graphs
create_graphs <- function(file) {
  # Read the Excel file
  df <- read.xlsx(file)

  # Check if the required columns are present
  if (!("norm_pos_y" %in% colnames(df)) | !("norm_pos_x" %in% colnames(df))) {
    cat(paste("Required columns not found in file:", file, "\n"))
    return(NULL)
  }

  # Filter out periods with no gaze positions (assuming NA or empty entries)
  df <- df[!is.na(df$norm_pos_y) & !is.na(df$norm_pos_x), ]

  # Extract the patient ID from the file name
  patient_id <- tools::file_path_sans_ext(basename(file))
  patient_id <- gsub("gaze_data_", "", patient_id)

  # Create vertical gaze positions graph
  vertical_plot <- ggplot(df, aes(x = df[, 1], y = norm_pos_y)) +
    geom_line(na.rm = TRUE) +
    ggtitle(paste("Vertical gaze positions", patient_id)) +
    xlab("Time") +
    ylab("Vertical Gaze Position")

  # Save the vertical plot
  vertical_plot_file <- file.path(dirname(file), paste0("vertical_gaze_", patient_id, ".png"))
```

```

ggsave(vertical_plot_file, vertical_plot)

# Introduce the vertical plot
print(vertical_plot)

# Create horizontal gaze positions graph
horizontal_plot <- ggplot(df, aes(x = df[, 1], y = norm_pos_x)) +
  geom_line(na.rm = TRUE) +
  ggtitle(paste("Horizontal gaze positions", patient_id)) +
  xlab("Time") +
  ylab("Horizontal Gaze Position")

# Save the horizontal plot
horizontal_plot_file <- file.path(dirname(file), paste0("horizontal_gaze_", patient_id, ".png"))
ggsave(horizontal_plot_file, horizontal_plot)

# Introduce the horizontal plot
print(horizontal_plot)

cat(paste("Graphs created for patient:", patient_id, "\n"))
}

# Set the directory containing the gaze data files
gaze_data_dir <- "C:/Users/shach/Documents/Shachar-s_Thesis2/    "new_clean_outputs/"

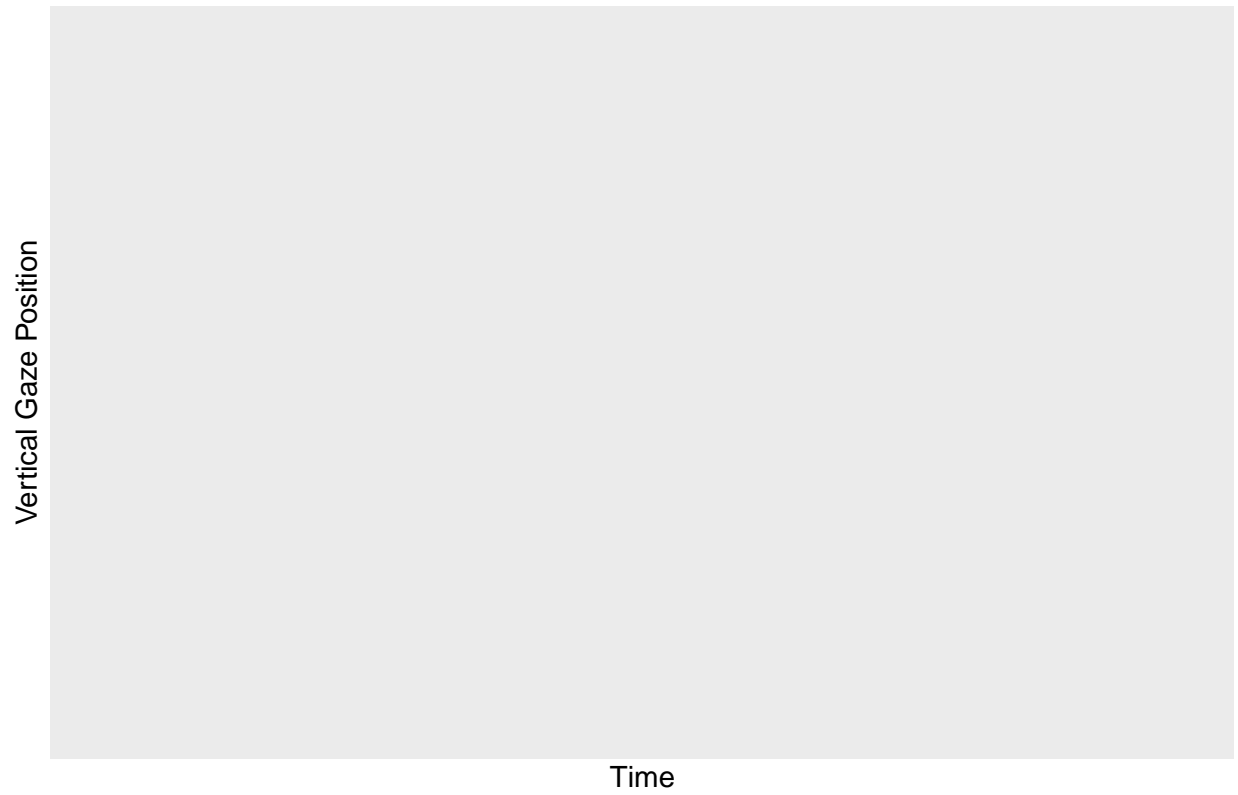
# List all Excel files in the directory
files <- list.files(gaze_data_dir, pattern = "*.xlsx", full.names = TRUE)

# Apply the function to all files
lapply(files, create_graphs)

## Saving 6.5 x 4.5 in image
## Saving 6.5 x 4.5 in image

```

## Vertical gaze positions clean\_turns\_data\_AB361\_EC

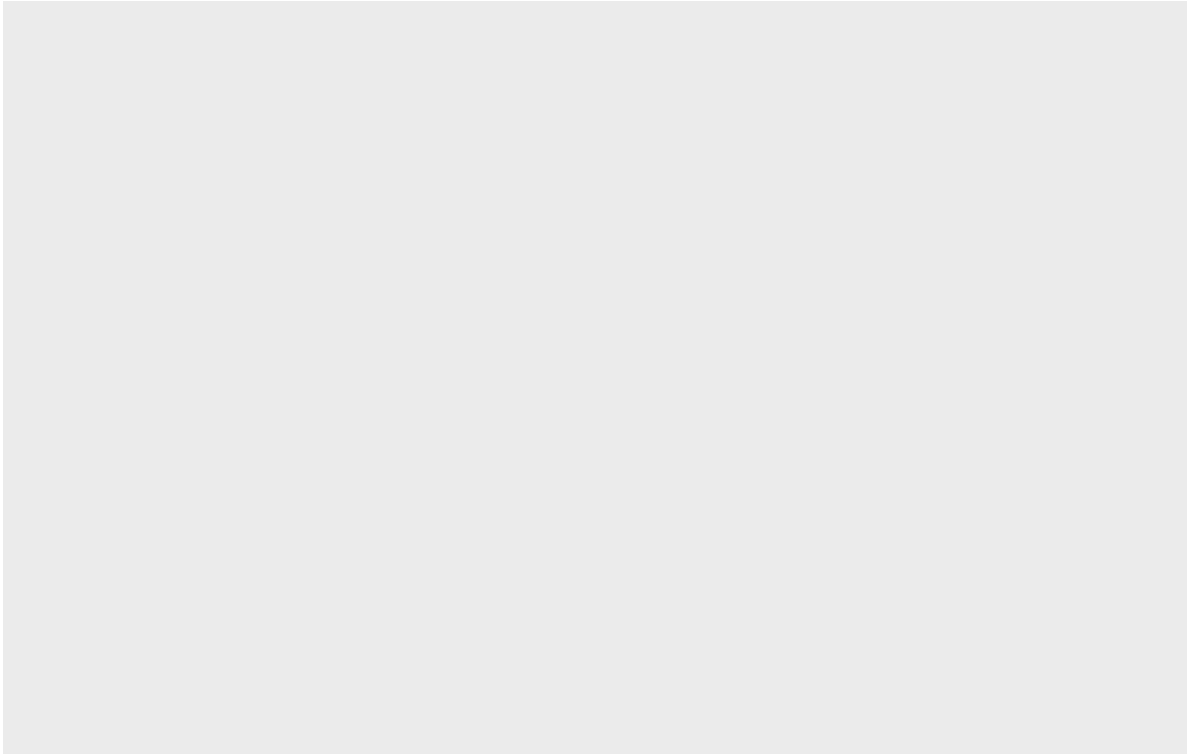


```
## Graphs created for patient: clean_turns_data_AB361_EC
```

```
## Saving 6.5 x 4.5 in image
```

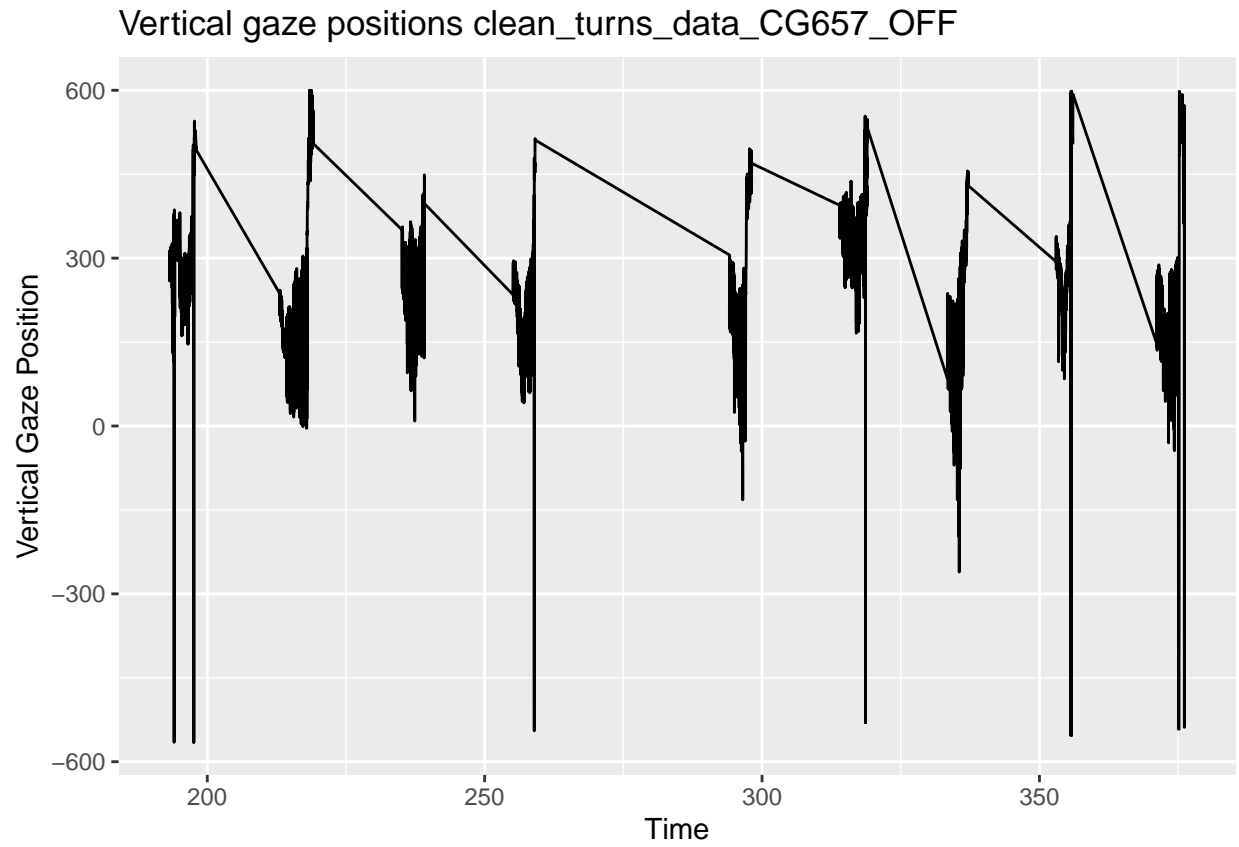
Horizontal gaze positions clean\_turns\_data\_AB361\_EC

Horizontal Gaze Position



Time

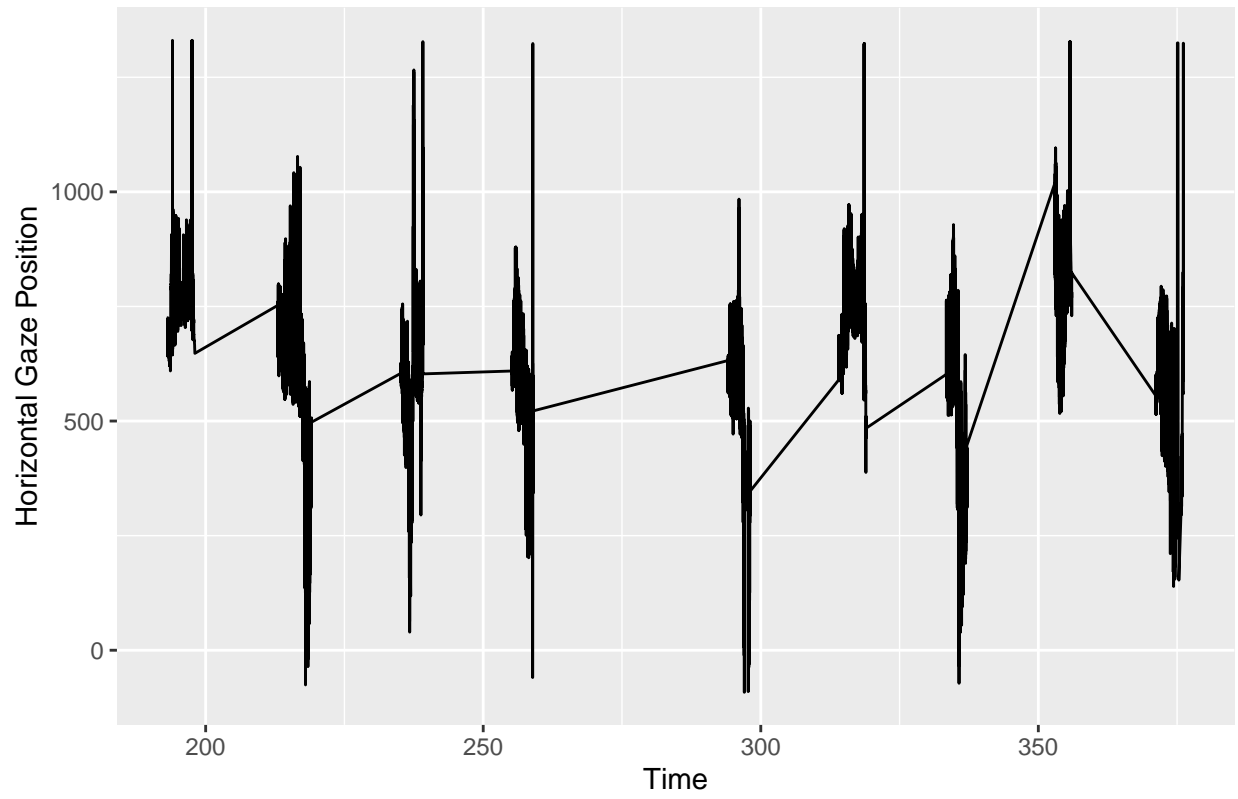
## Saving 6.5 x 4.5 in image



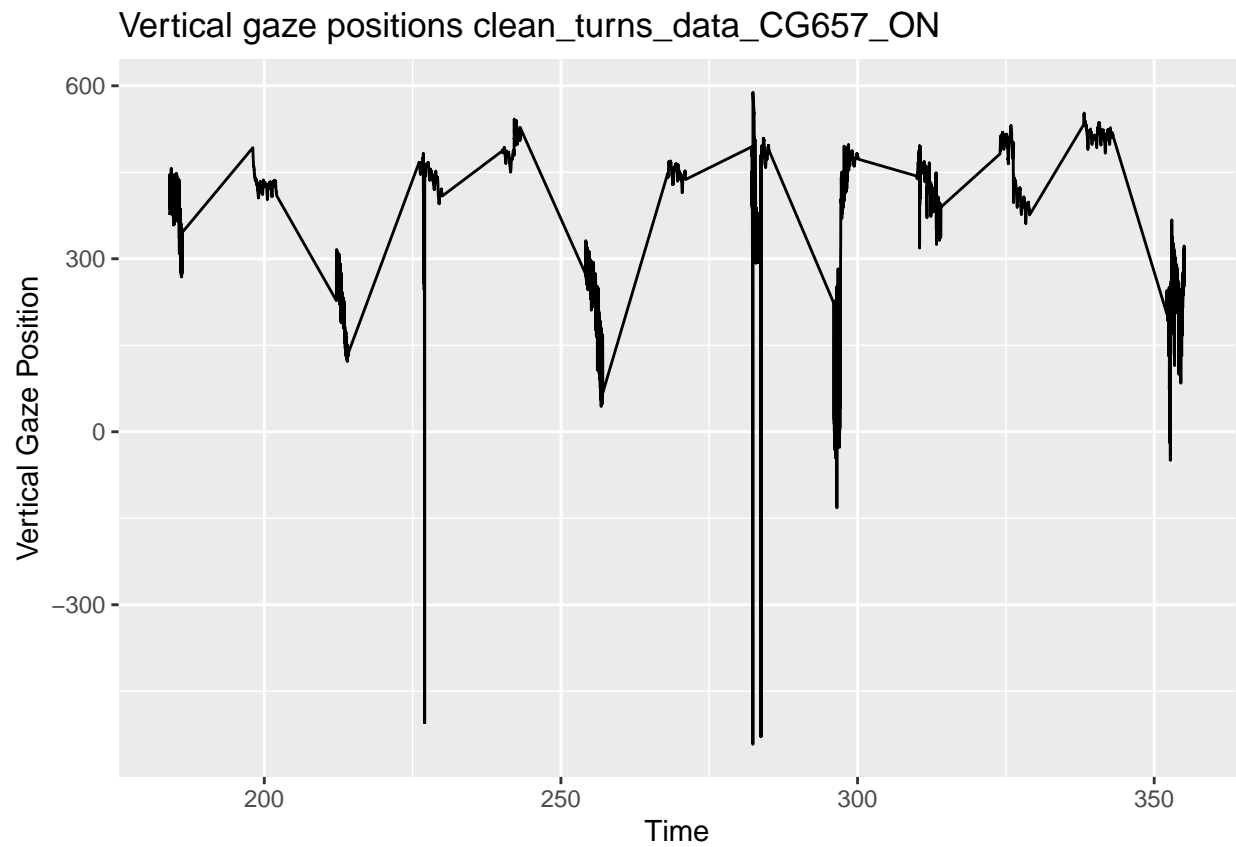
```
## Graphs created for patient: clean_turns_data_CG657_OFF
```

```
## Saving 6.5 x 4.5 in image
```

Horizontal gaze positions clean\_turns\_data\_CG657\_OFF



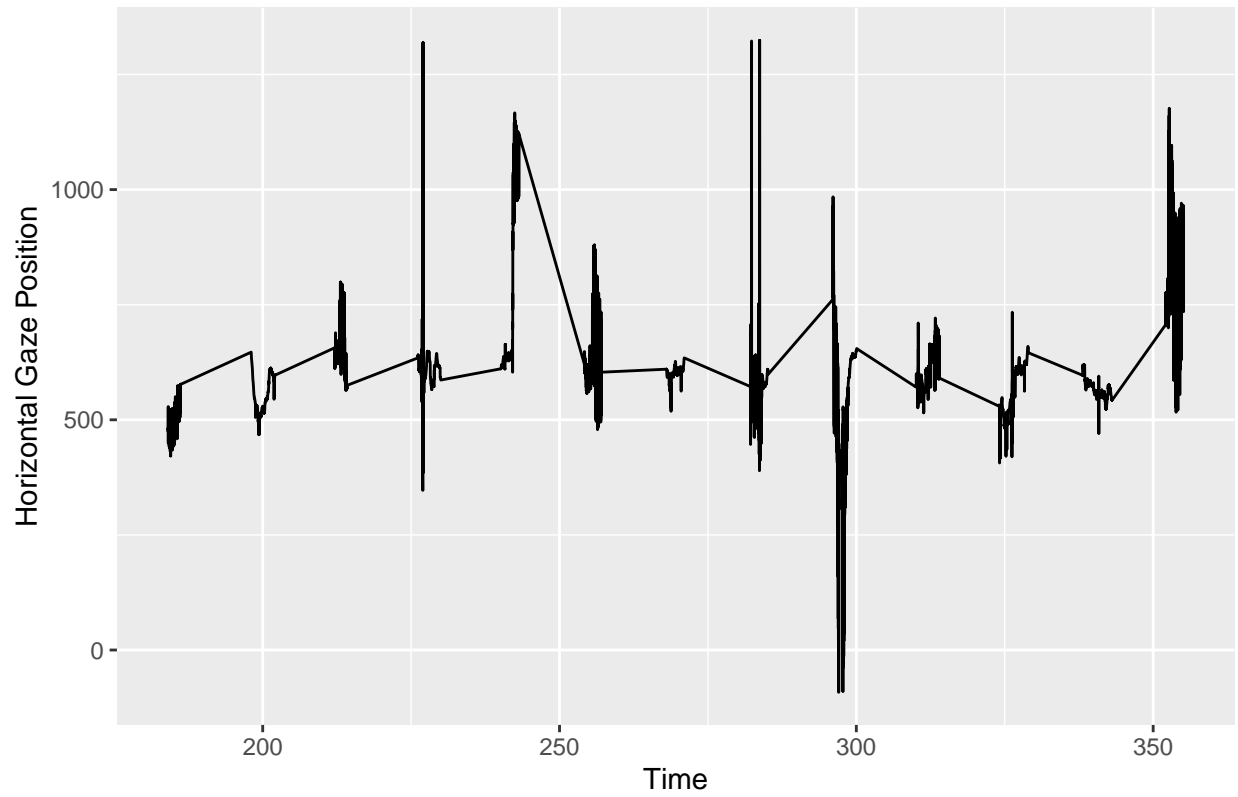
## Saving 6.5 x 4.5 in image



## Graphs created for patient: clean\_turns\_data\_CG657\_ON

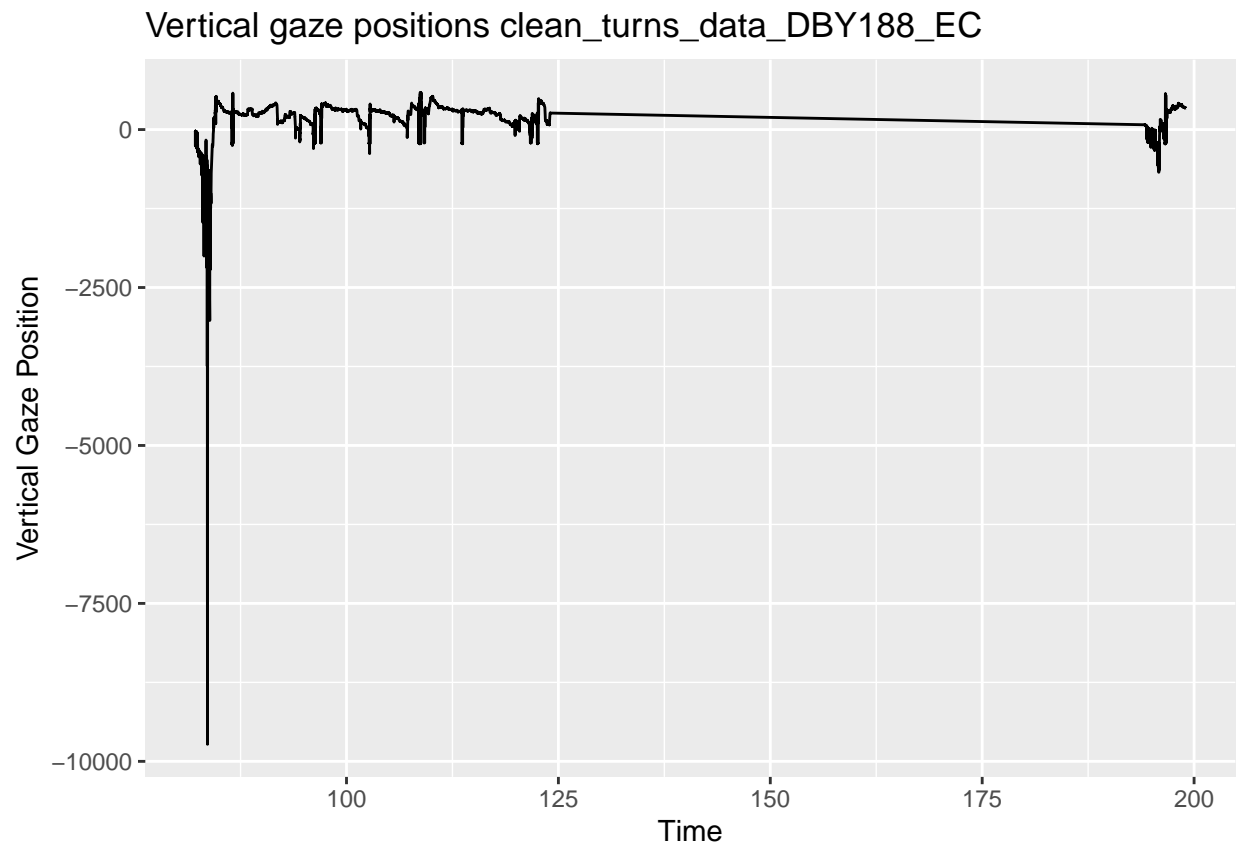
## Saving 6.5 x 4.5 in image

Horizontal gaze positions clean\_turns\_data\_CG657\_ON



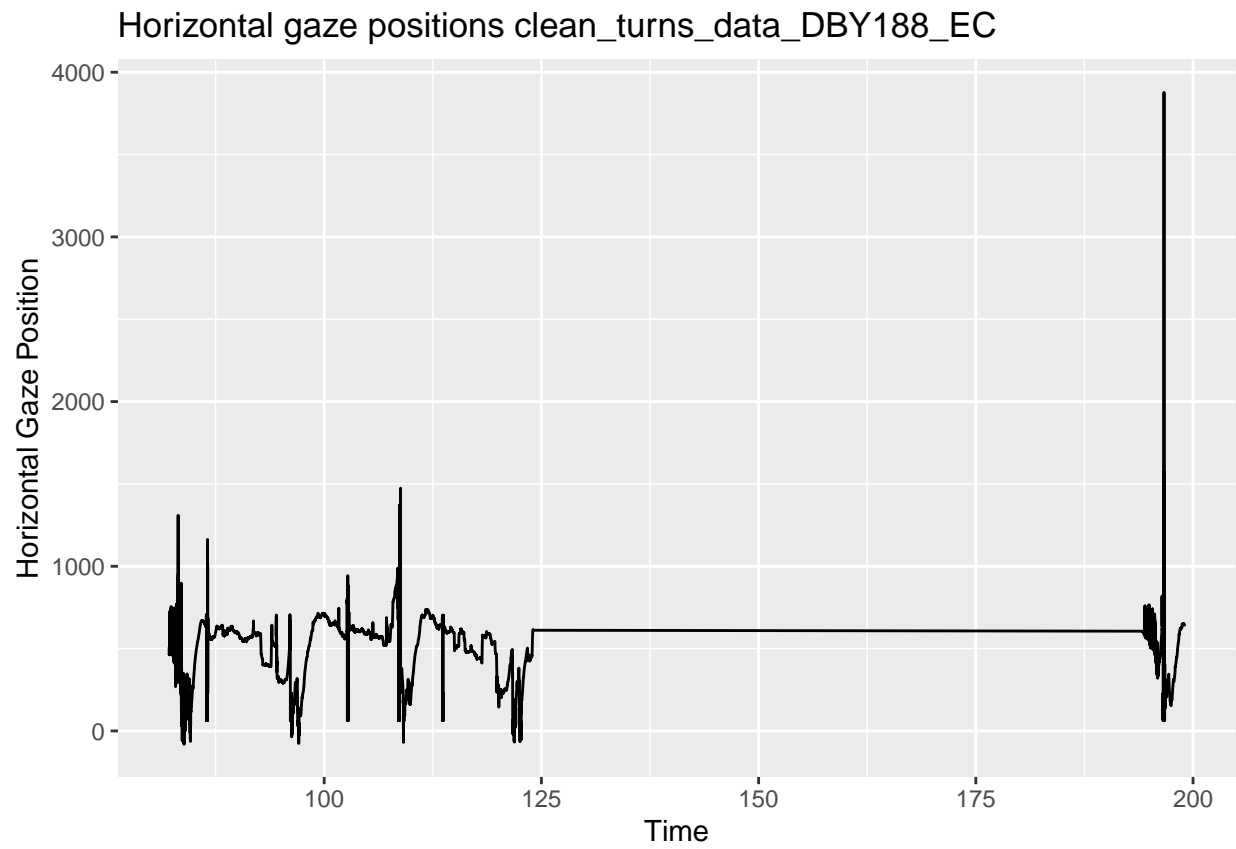
## Saving 6.5 x 4.5 in image





## Graphs created for patient: clean\_turns\_data\_DBY188\_EC

## Saving 6.5 x 4.5 in image



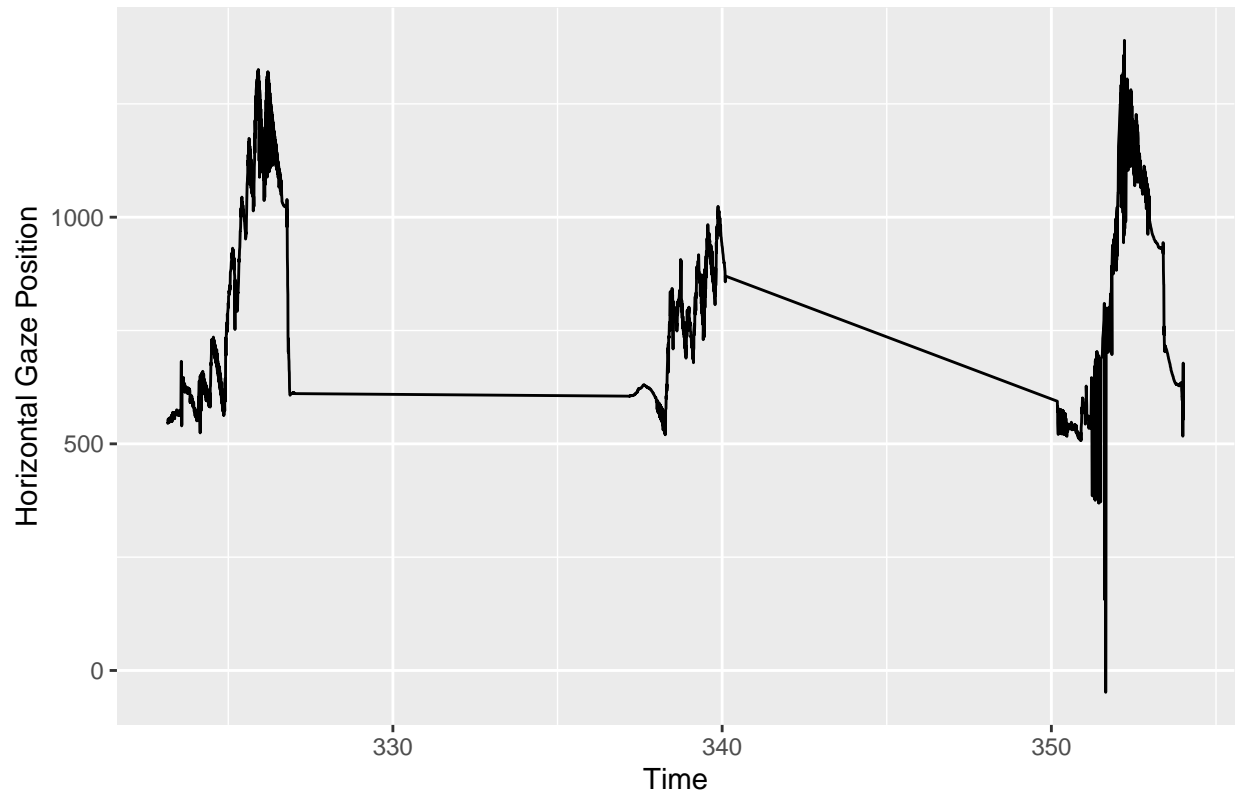
## Saving 6.5 x 4.5 in image



## Graphs created for patient: clean\_turns\_data\_DG652\_OFF

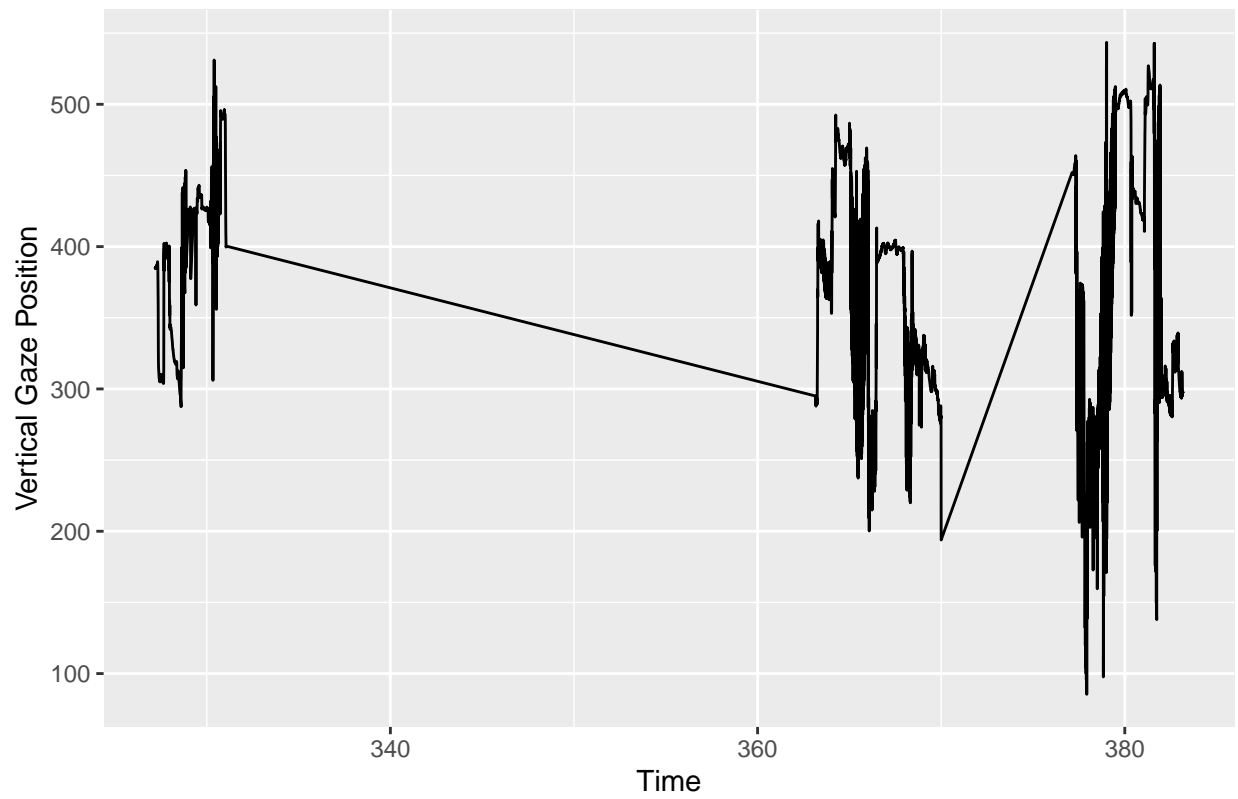
## Saving 6.5 x 4.5 in image

Horizontal gaze positions clean\_turns\_data\_DG652\_OFF



## Saving 6.5 x 4.5 in image

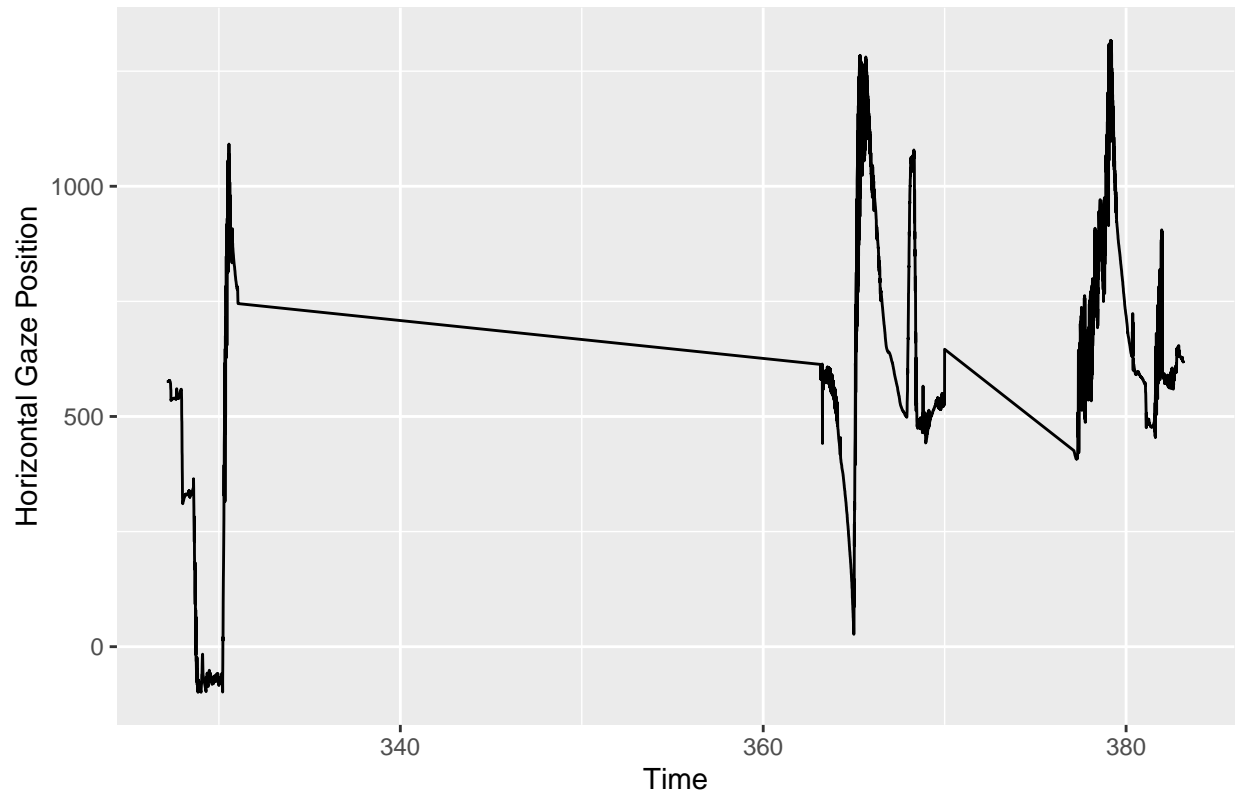
Vertical gaze positions clean\_turns\_data\_DG652\_ON



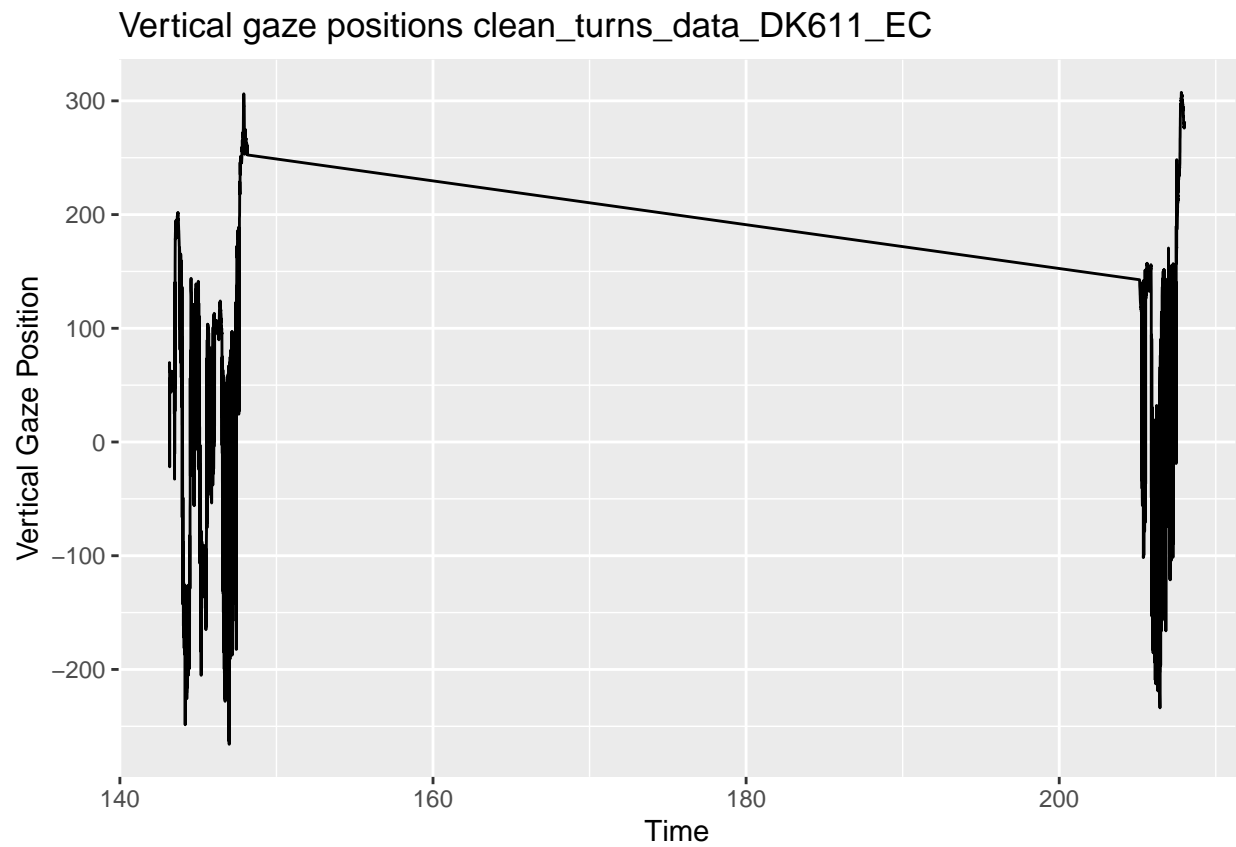
```
## Graphs created for patient: clean_turns_data_DG652_ON
```

```
## Saving 6.5 x 4.5 in image
```

Horizontal gaze positions clean\_turns\_data\_DG652\_ON

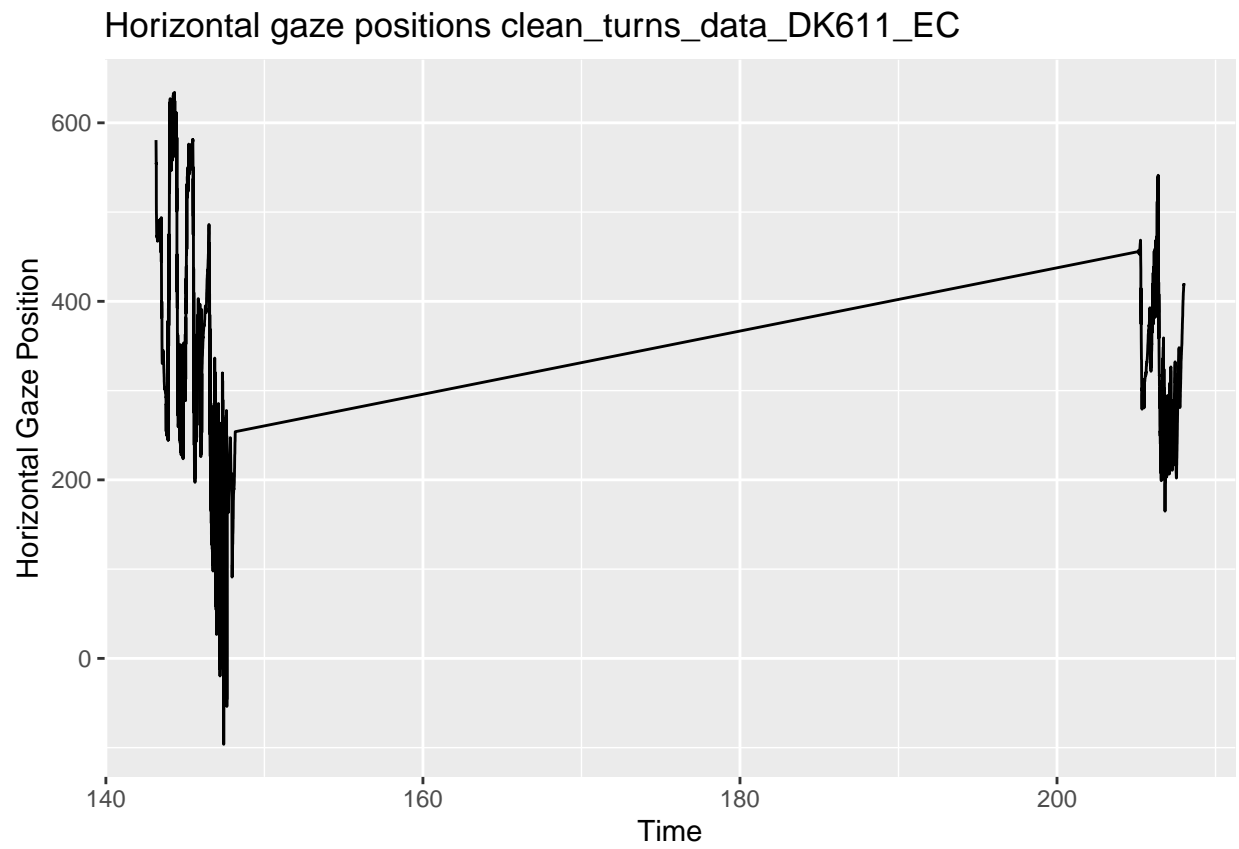


## Saving 6.5 x 4.5 in image



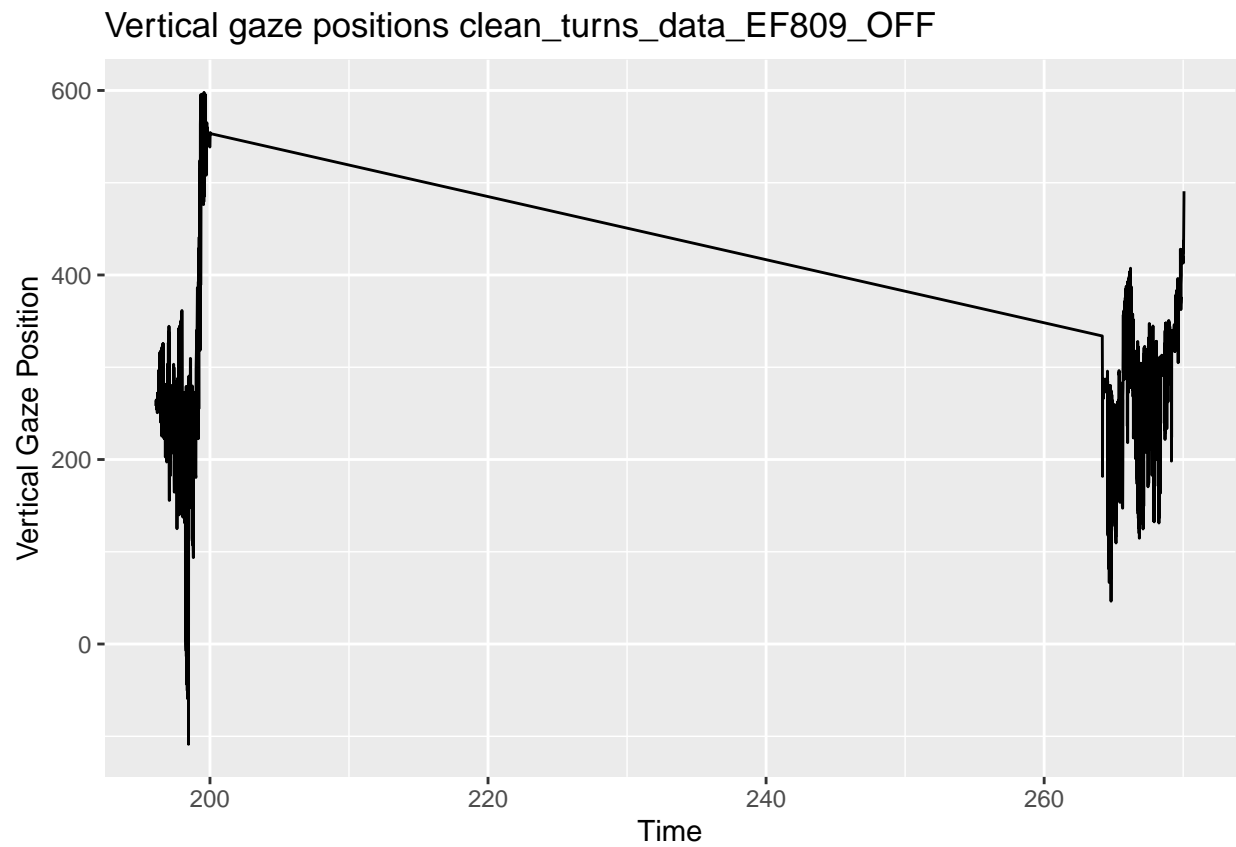
```
## Graphs created for patient: clean_turns_data_DK611_EC
```

```
## Saving 6.5 x 4.5 in image
```



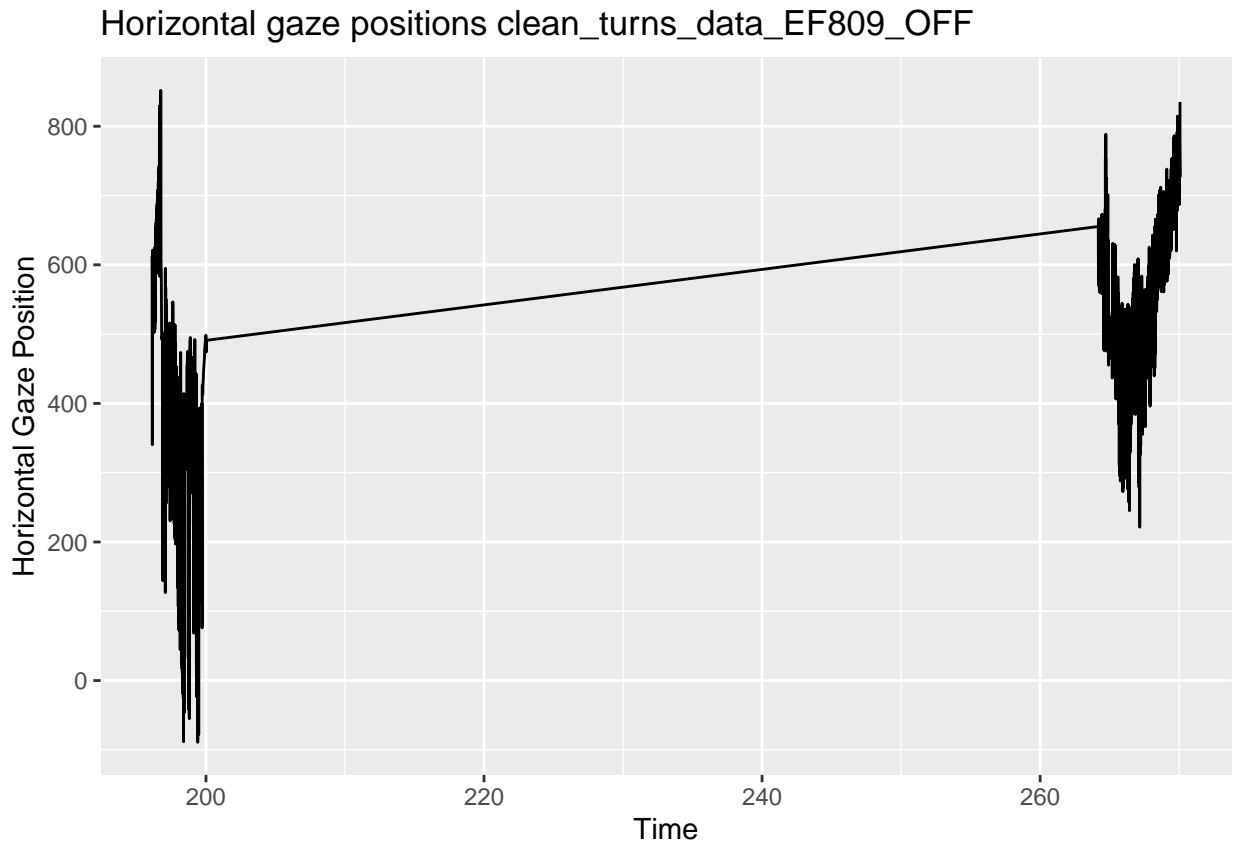
## Saving 6.5 x 4.5 in image



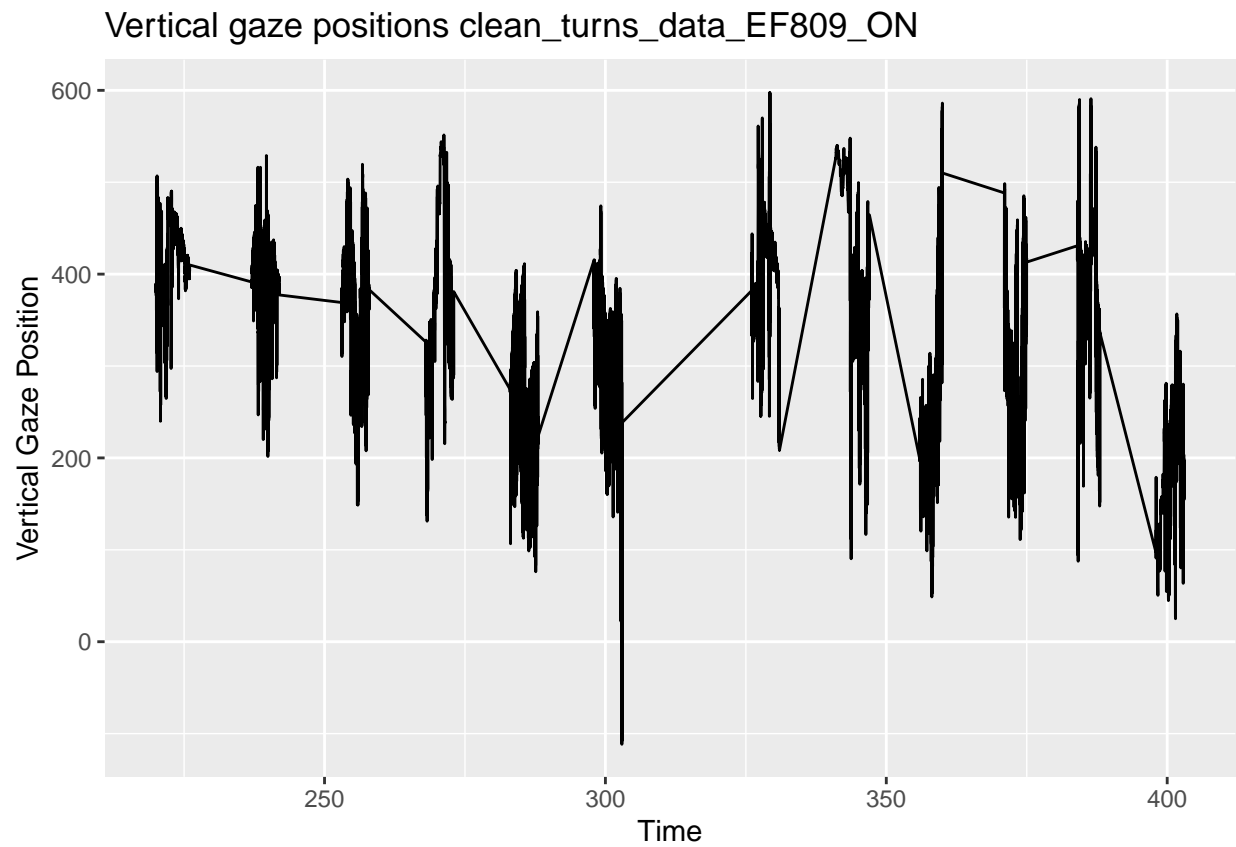


```
## Graphs created for patient: clean_turns_data_EF809_OFF
```

```
## Saving 6.5 x 4.5 in image
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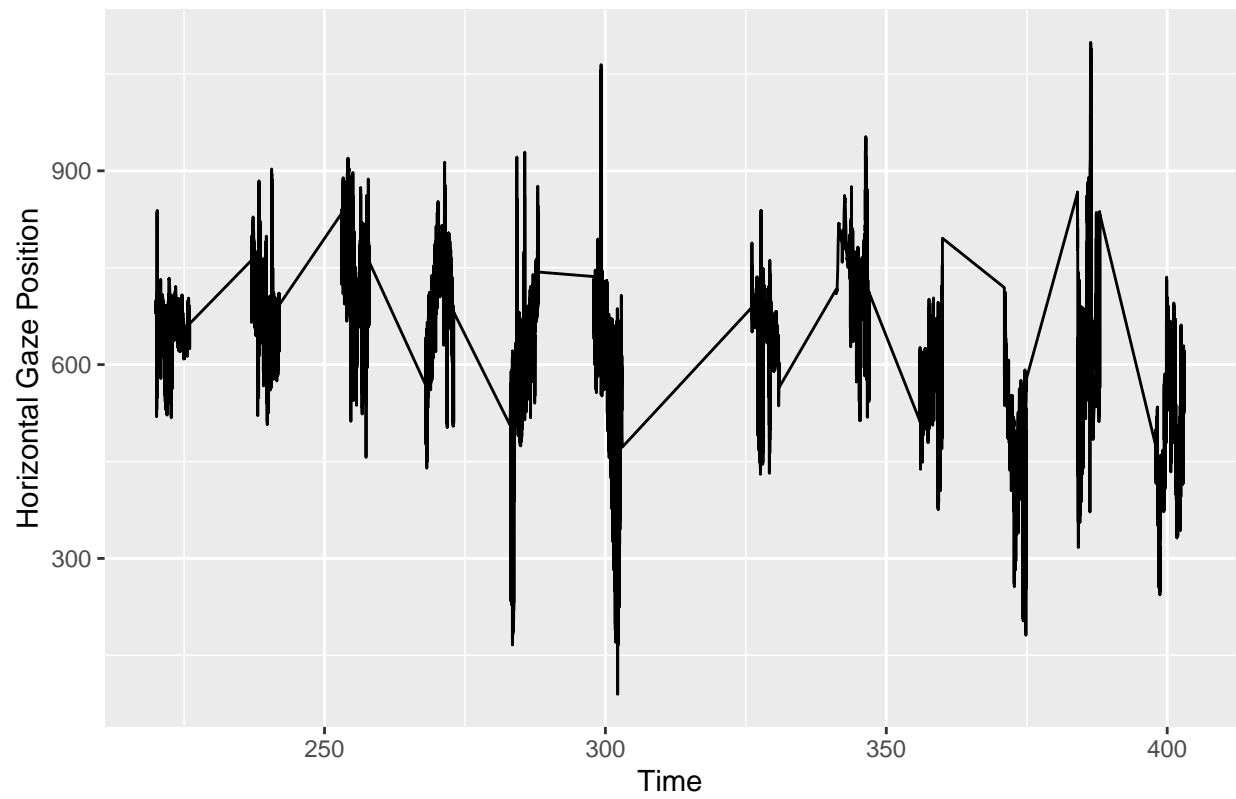
## Saving 6.5 x 4.5 in image



```
## Graphs created for patient: clean_turns_data_EF809_ON
```

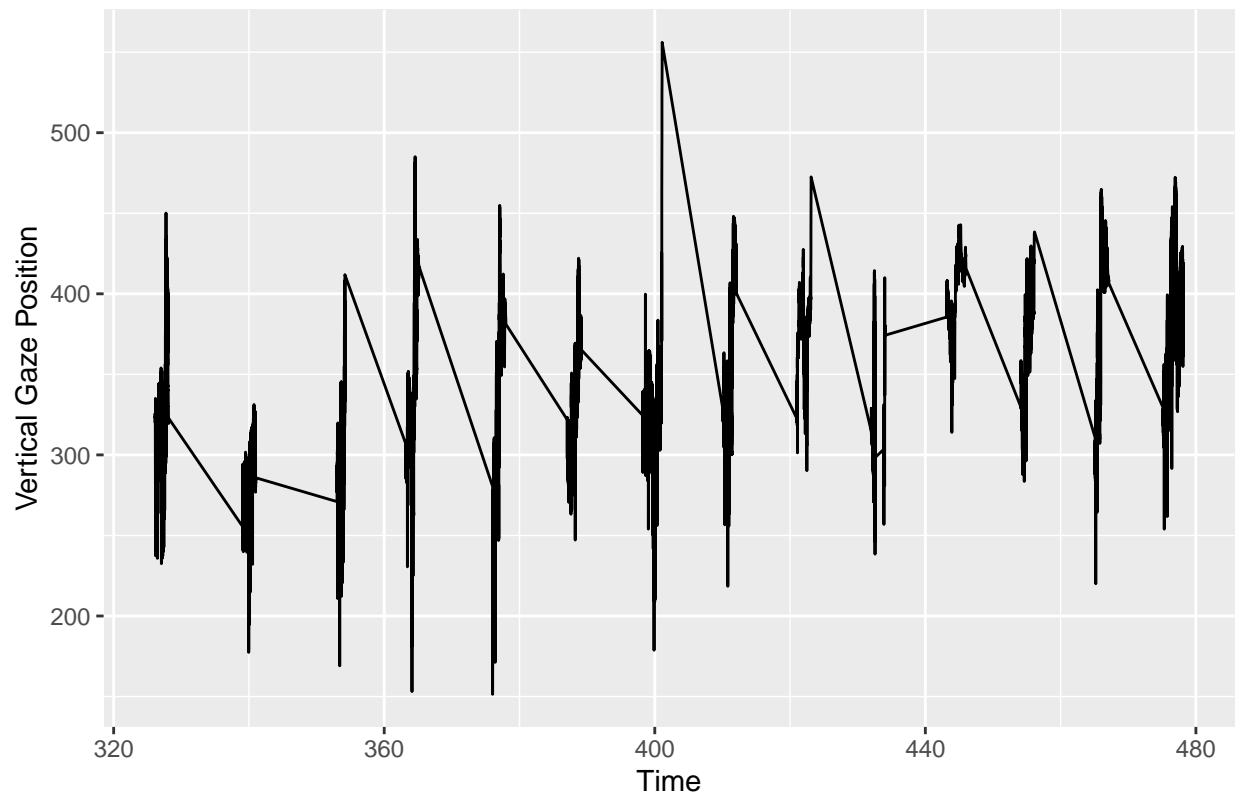
```
## Saving 6.5 x 4.5 in image
```

Horizontal gaze positions clean\_turns\_data\_EF809\_ON



## Saving 6.5 x 4.5 in image

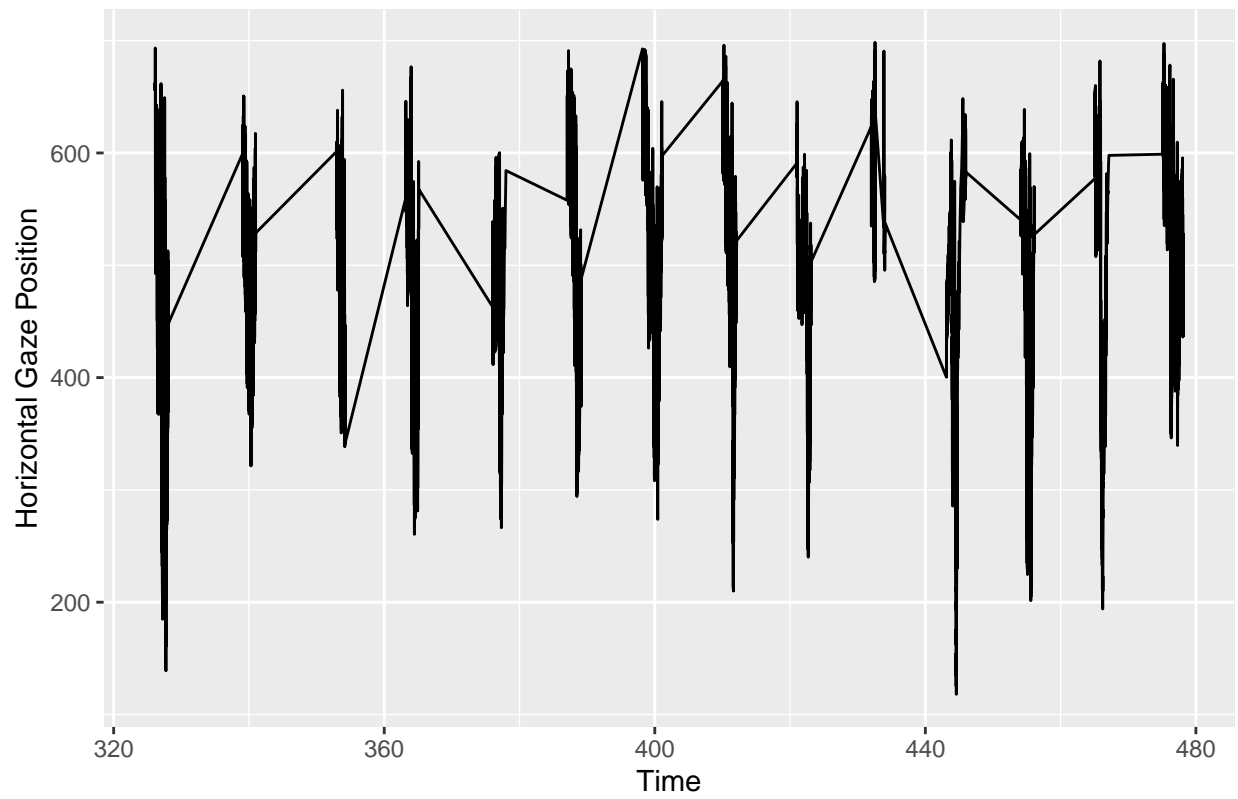
Vertical gaze positions clean\_turns\_data\_GV599\_EC



```
## Graphs created for patient: clean_turns_data_GV599_EC
```

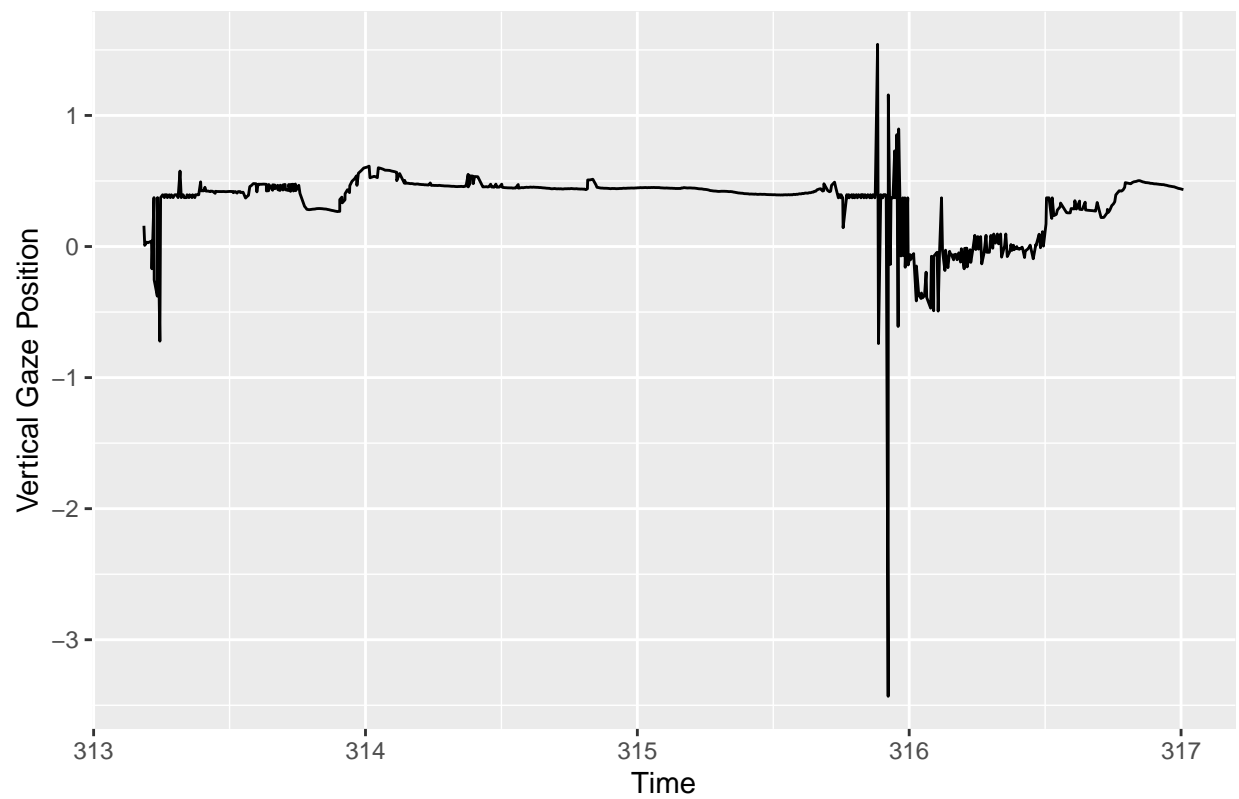
```
## Saving 6.5 x 4.5 in image
```

Horizontal gaze positions clean\_turns\_data\_GV599\_EC



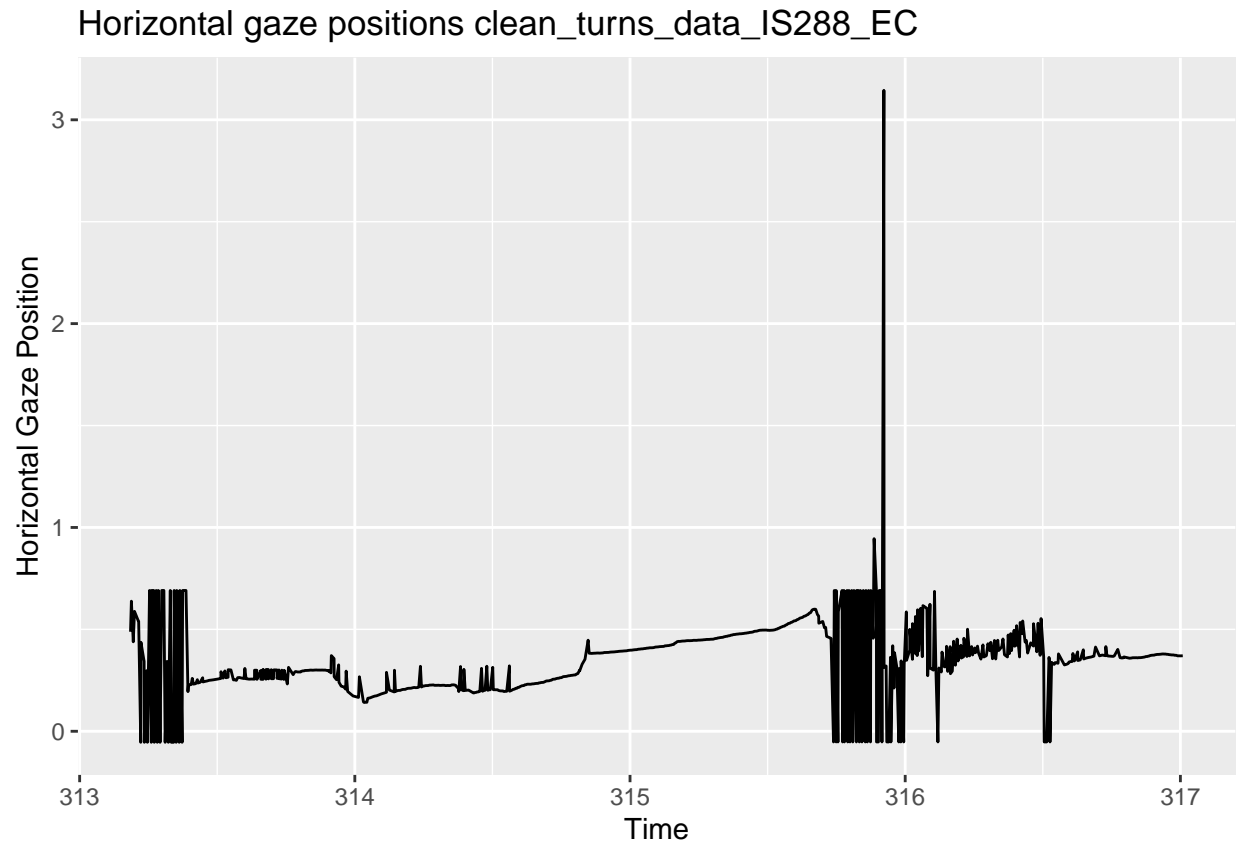
## Saving 6.5 x 4.5 in image

Vertical gaze positions clean\_turns\_data\_IS288\_EC



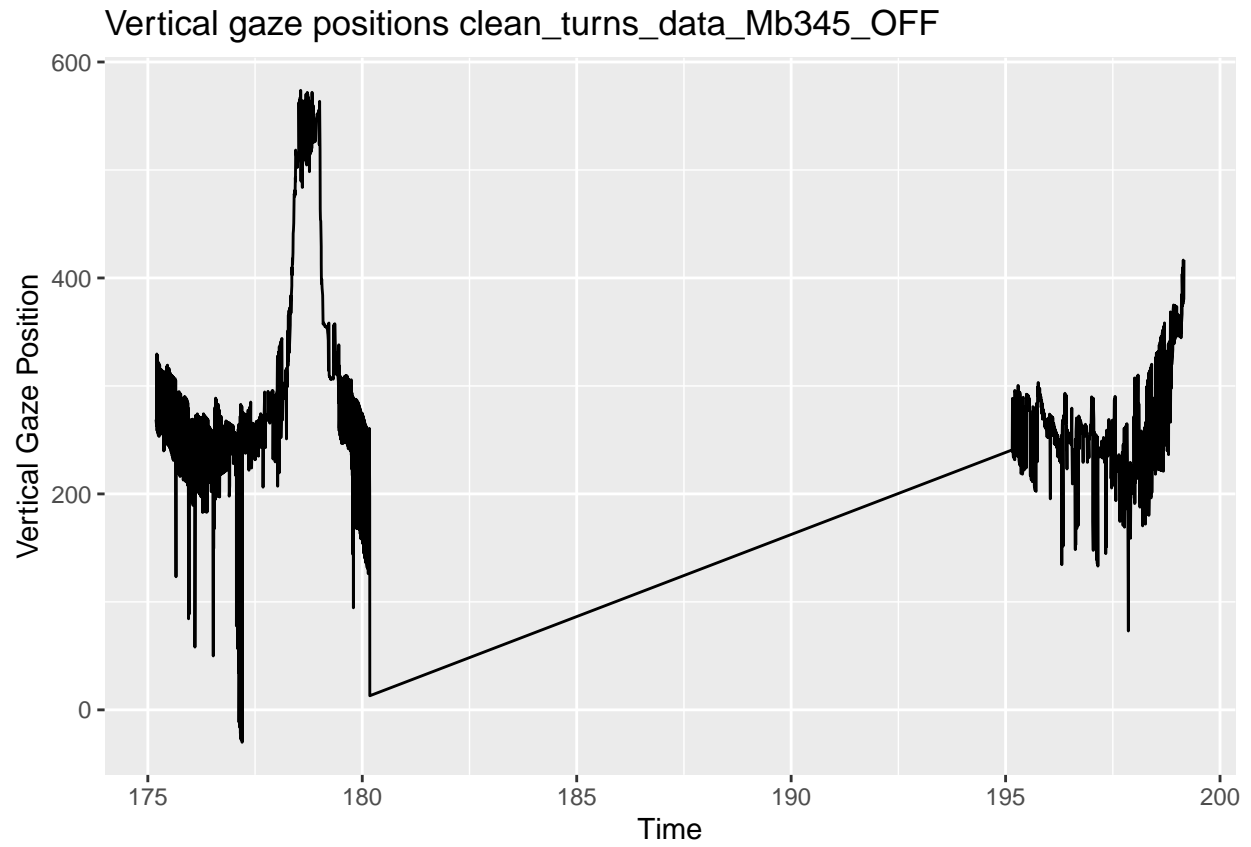
```
## Graphs created for patient: clean_turns_data_IS288_EC
```

```
## Saving 6.5 x 4.5 in image
```



## Saving 6.5 x 4.5 in image

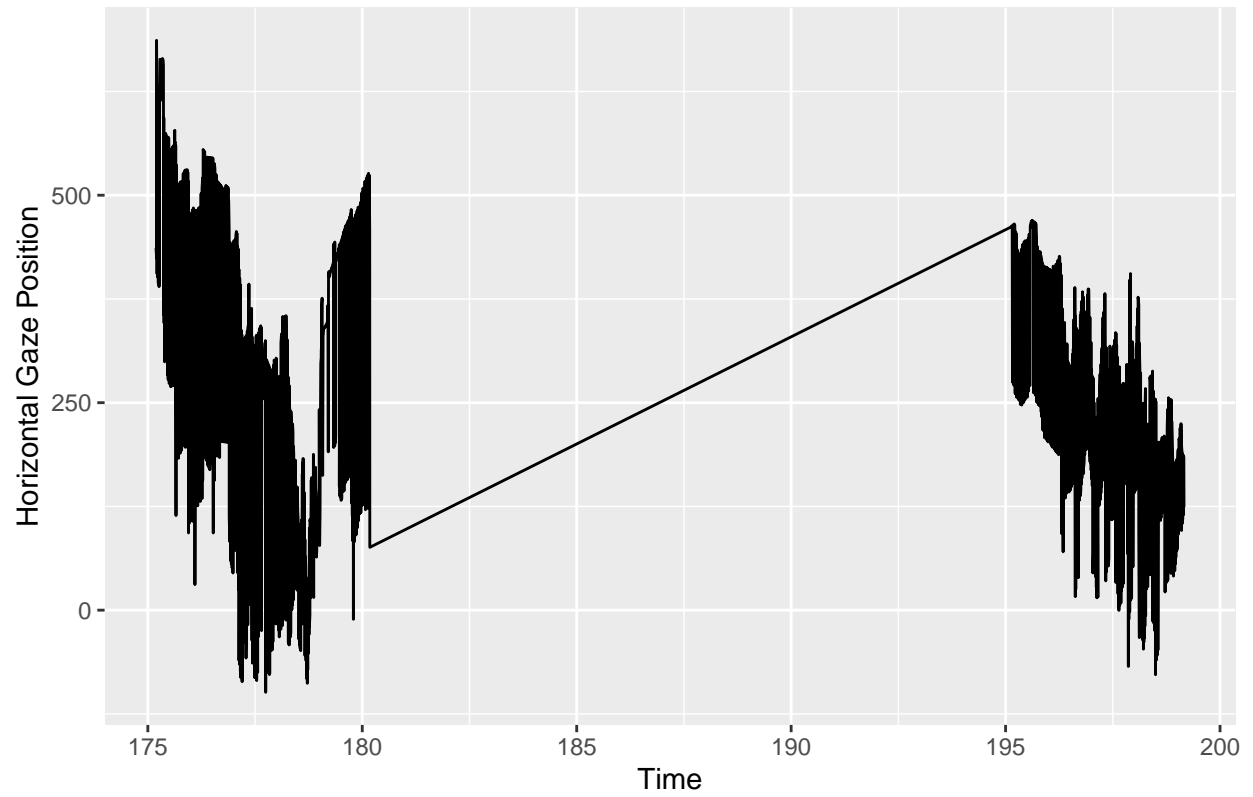




```
## Graphs created for patient: clean_turns_data_Mb345_OFF
```

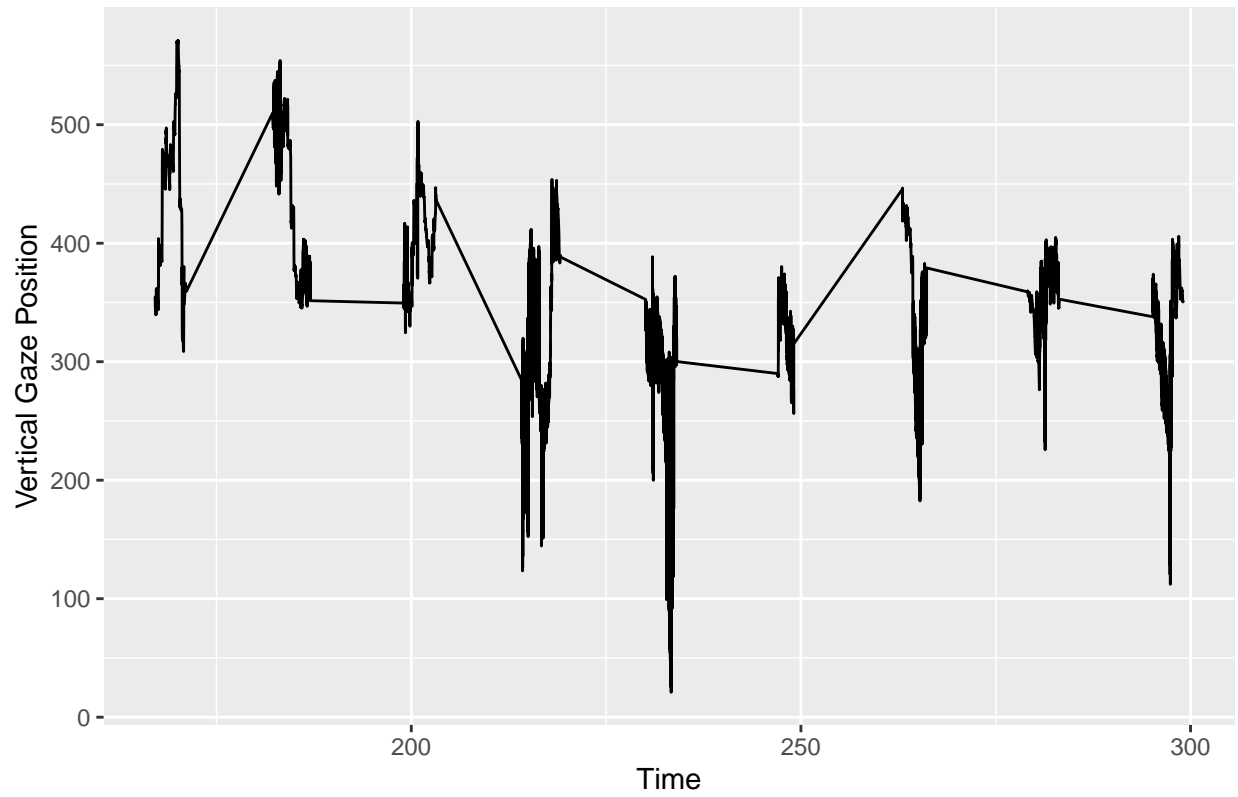
```
## Saving 6.5 x 4.5 in image
```

Horizontal gaze positions clean\_turns\_data\_Mb345\_OFF



## Saving 6.5 x 4.5 in image

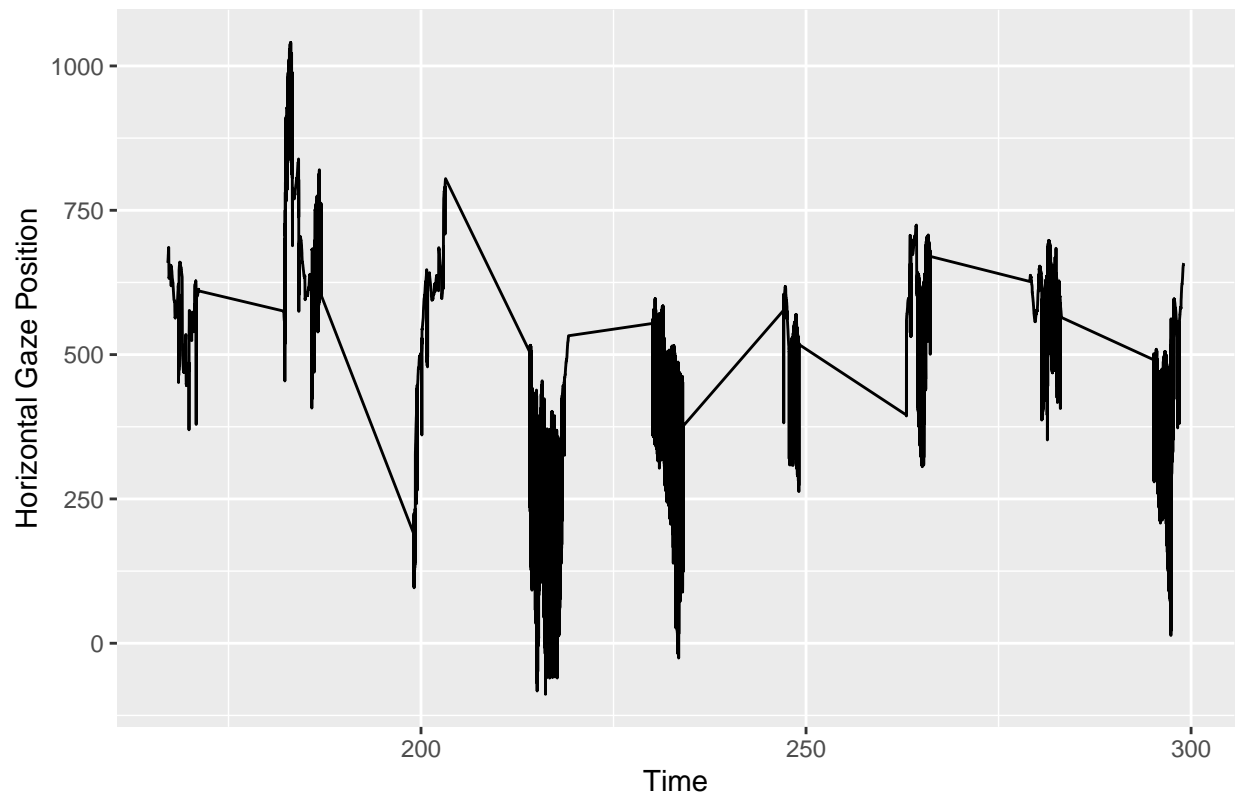
Vertical gaze positions clean\_turns\_data\_Mb345\_ON



```
## Graphs created for patient: clean_turns_data_Mb345_ON
```

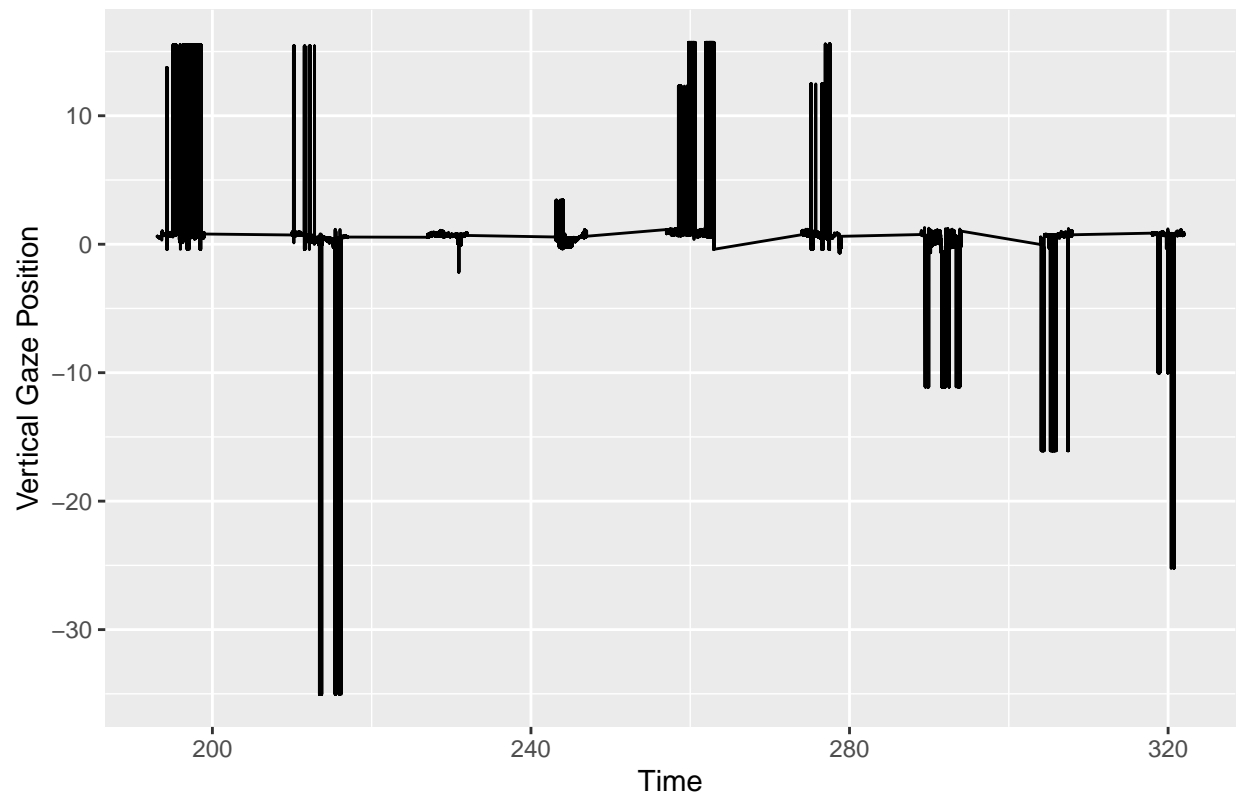
```
## Saving 6.5 x 4.5 in image
```

Horizontal gaze positions clean\_turns\_data\_Mb345\_ON



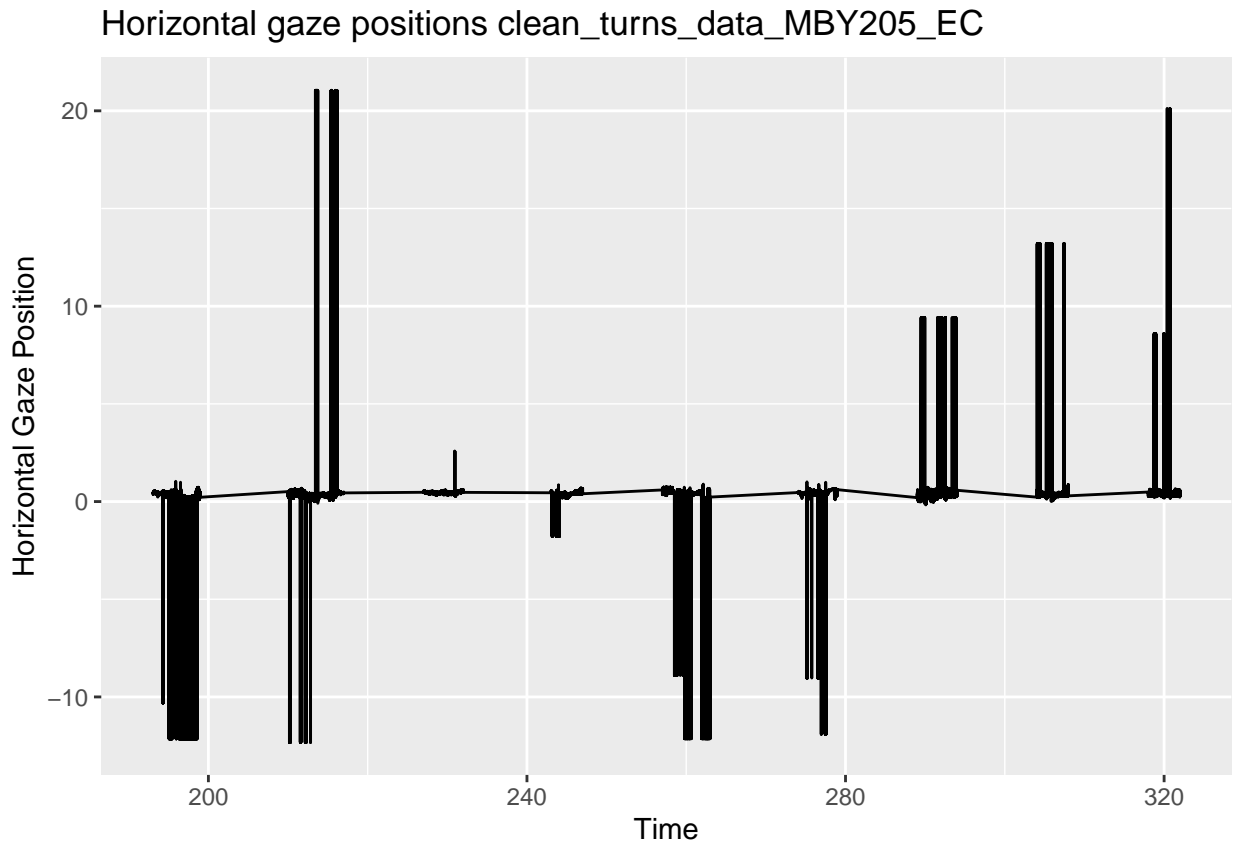
## Saving 6.5 x 4.5 in image

Vertical gaze positions clean\_turns\_data\_MBY205\_EC

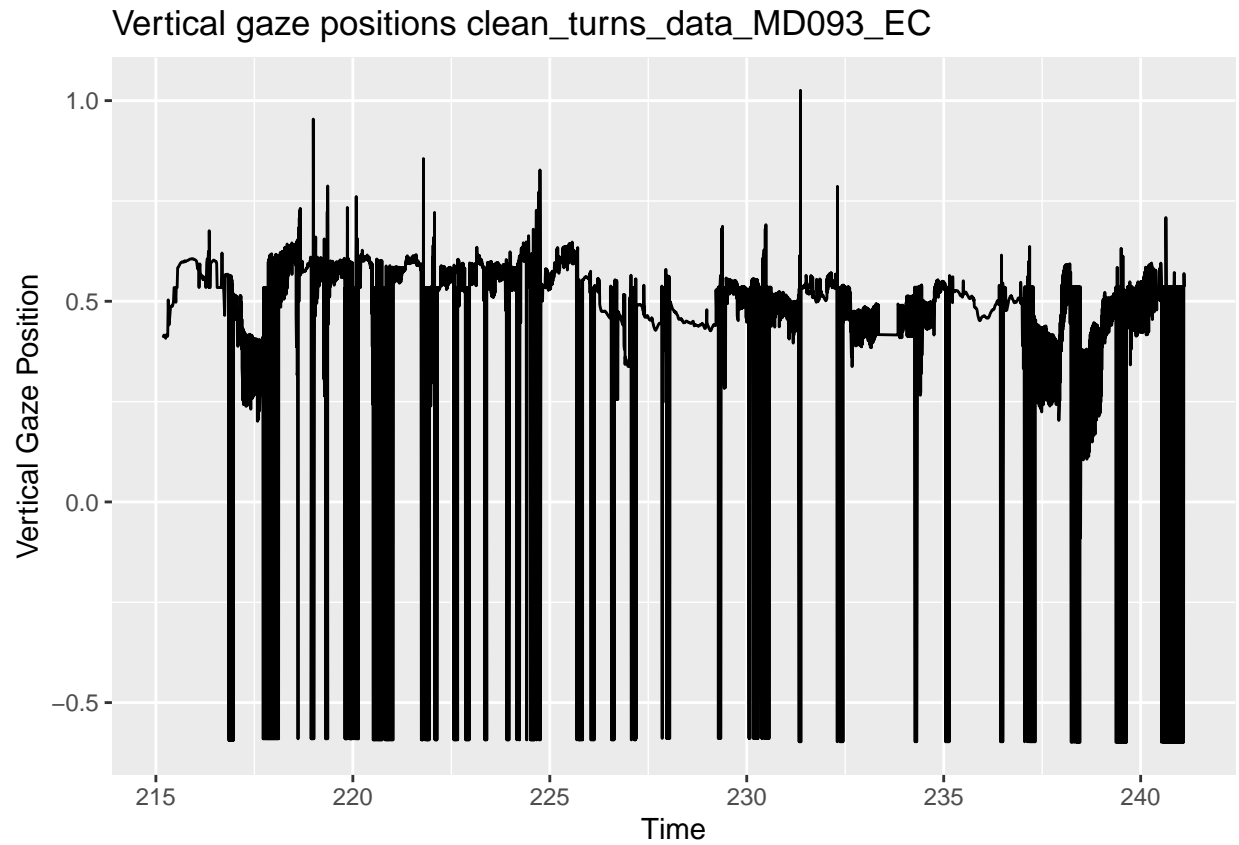


## Graphs created for patient: clean\_turns\_data\_MBY205\_EC

## Saving 6.5 x 4.5 in image

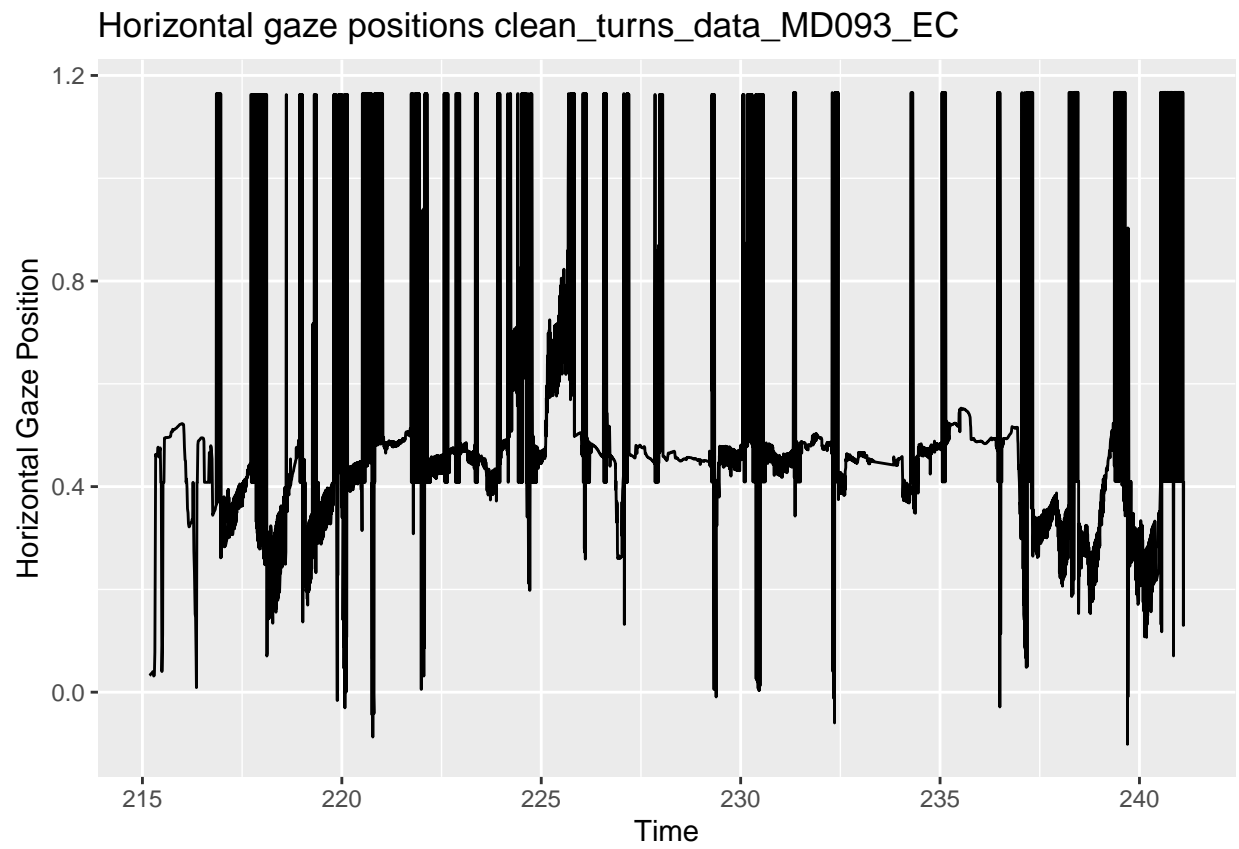


## Saving 6.5 x 4.5 in image



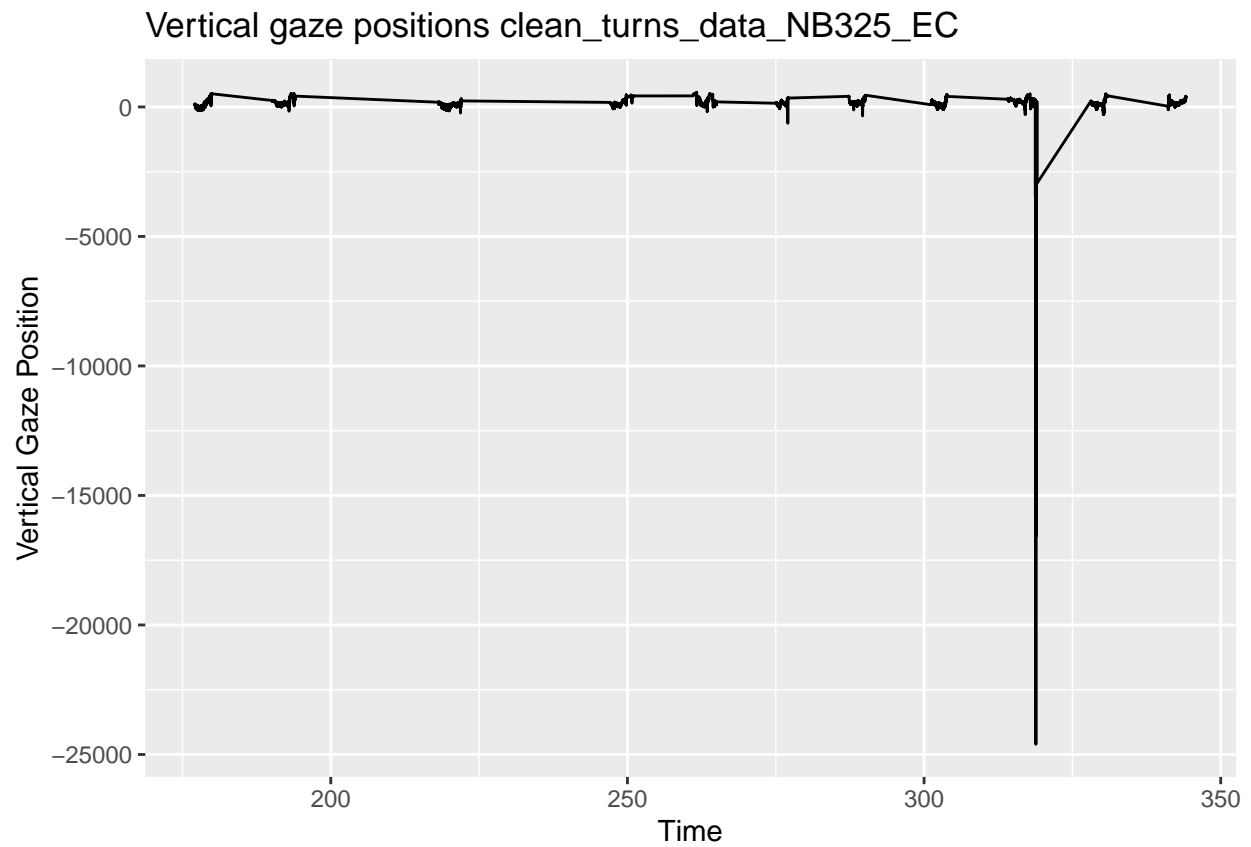
```
## Graphs created for patient: clean_turns_data_MD093_EC
```

```
## Saving 6.5 x 4.5 in image
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## Saving 6.5 x 4.5 in image

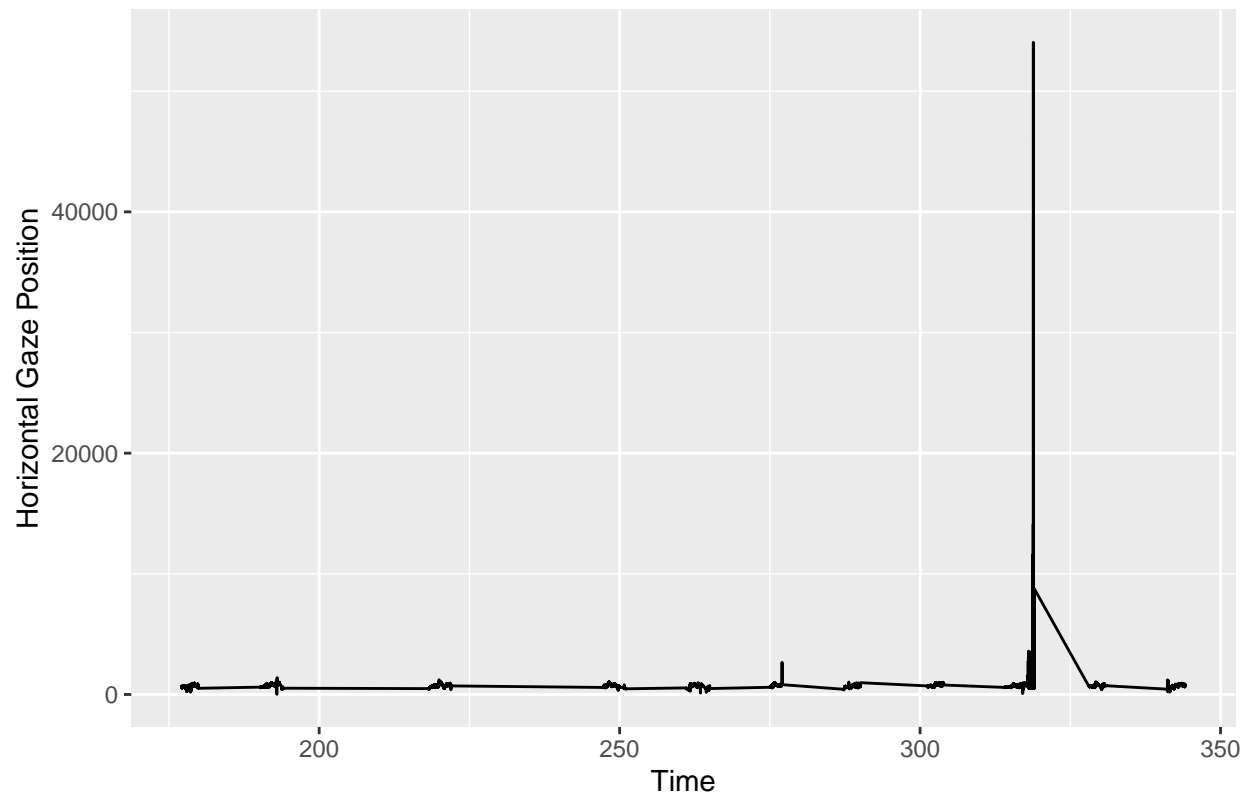




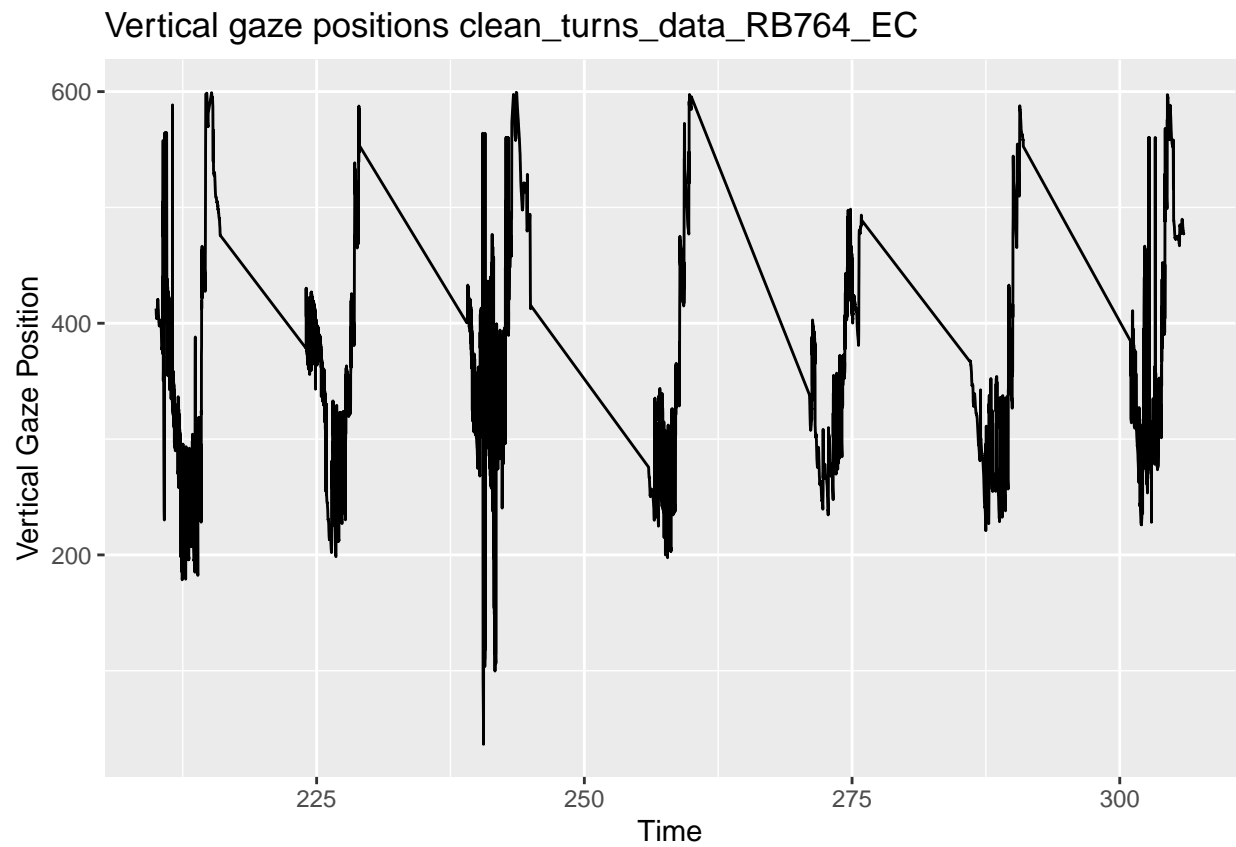
```
## Graphs created for patient: clean_turns_data_NB325_EC
```

```
## Saving 6.5 x 4.5 in image
```

Horizontal gaze positions clean\_turns\_data\_NB325\_EC



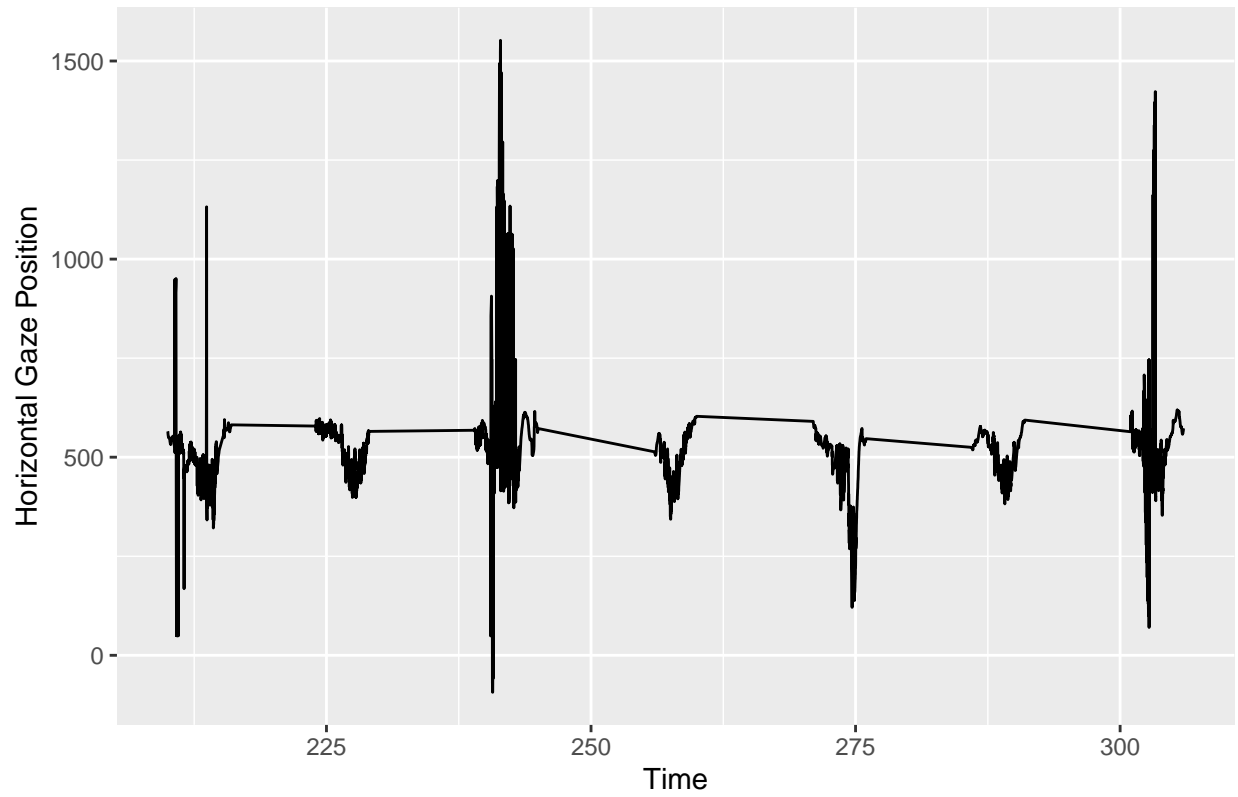
## Saving 6.5 x 4.5 in image



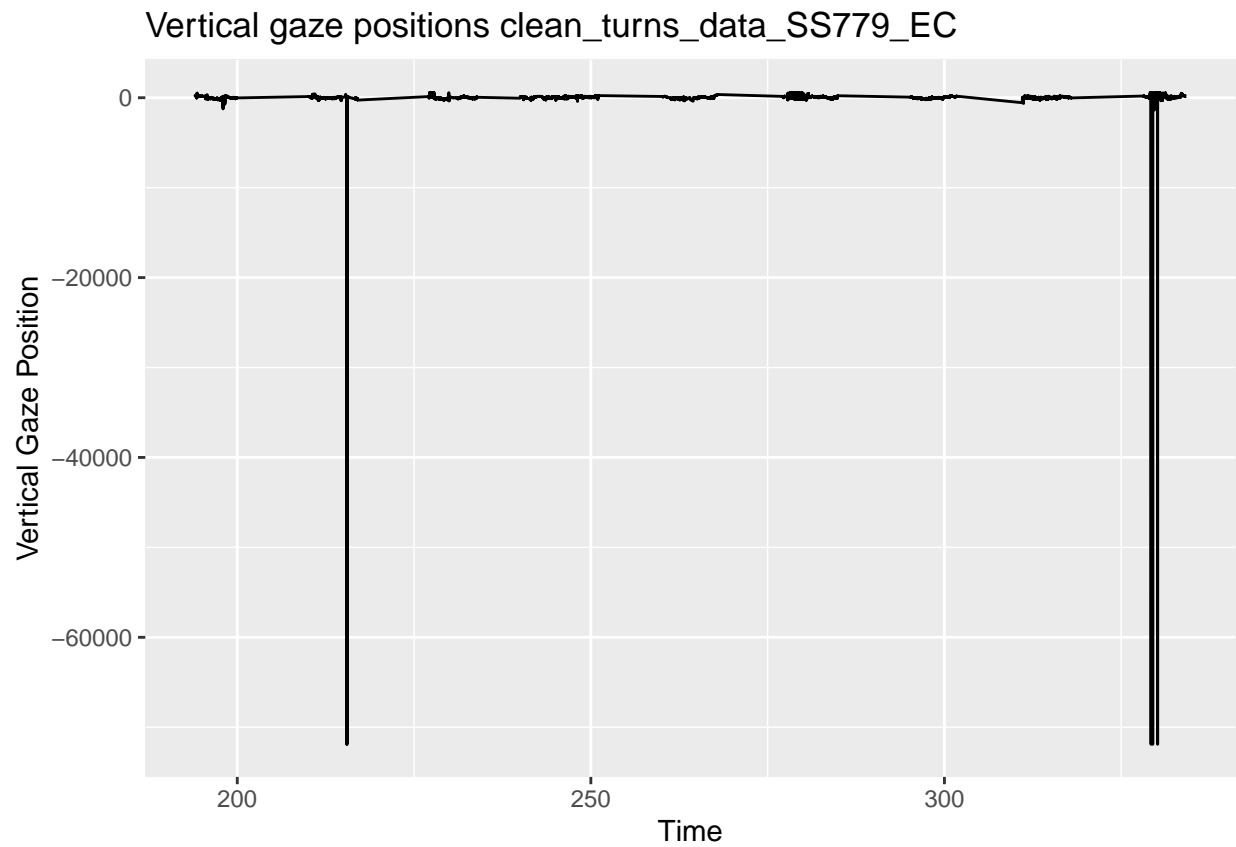
```
## Graphs created for patient: clean_turns_data_RB764_EC
```

```
## Saving 6.5 x 4.5 in image
```

Horizontal gaze positions clean\_turns\_data\_RB764\_EC



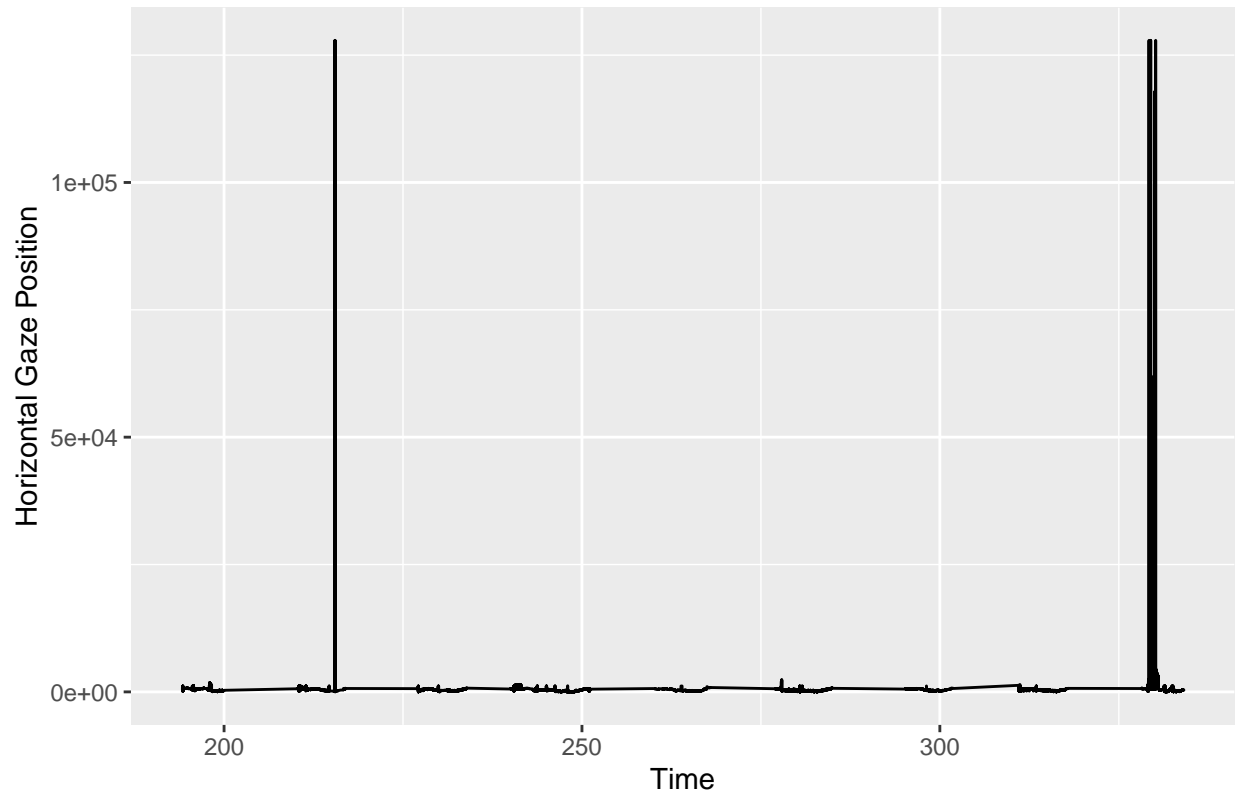
## Saving 6.5 x 4.5 in image



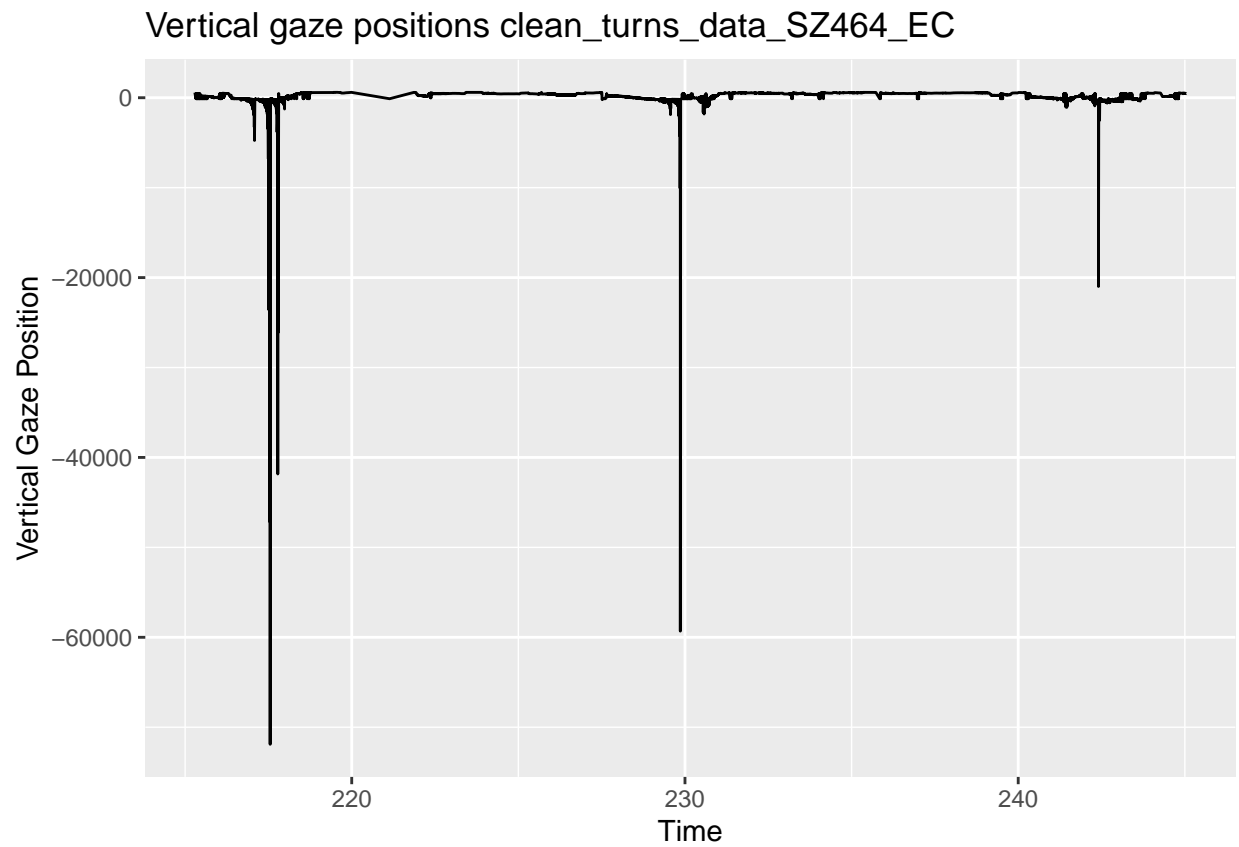
```
## Graphs created for patient: clean_turns_data_SS779_EC
```

```
## Saving 6.5 x 4.5 in image
```

Horizontal gaze positions clean\_turns\_data\_SS779\_EC



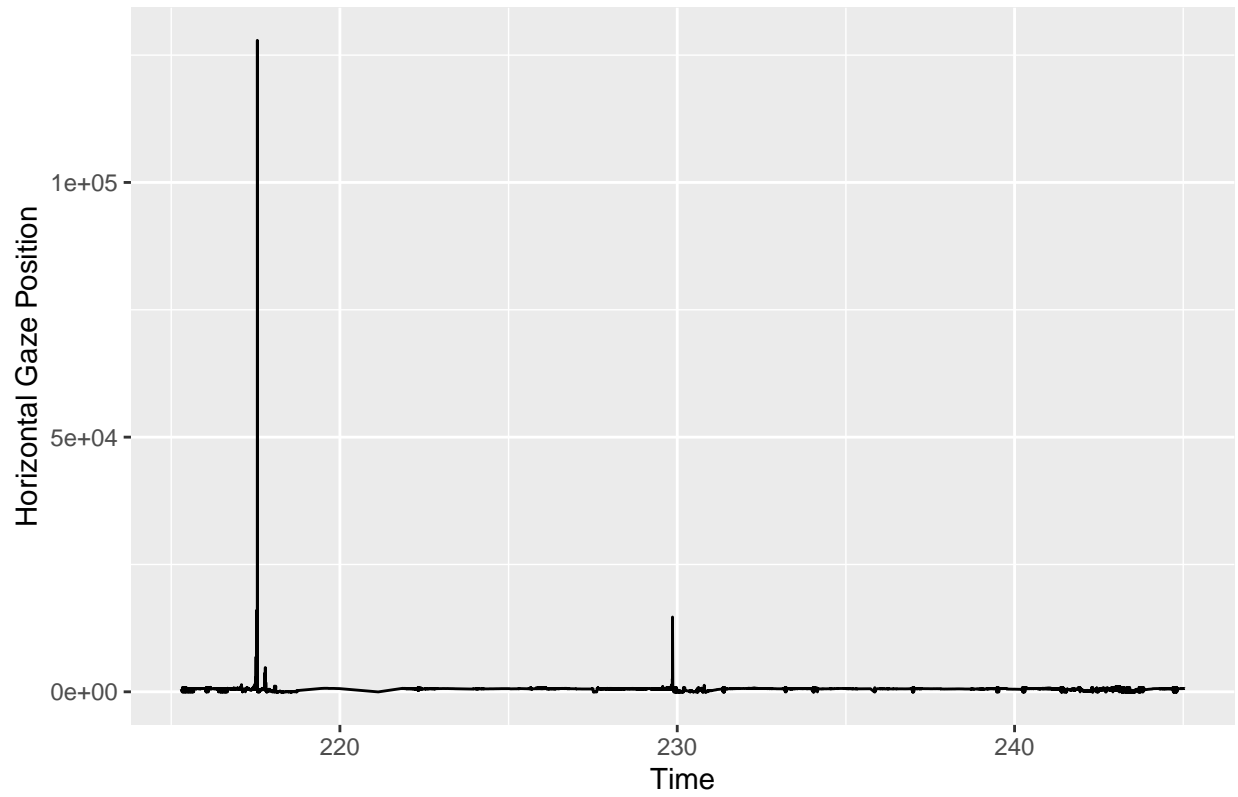
## Saving 6.5 x 4.5 in image



```
## Graphs created for patient: clean_turns_data_SZ464_EC
```

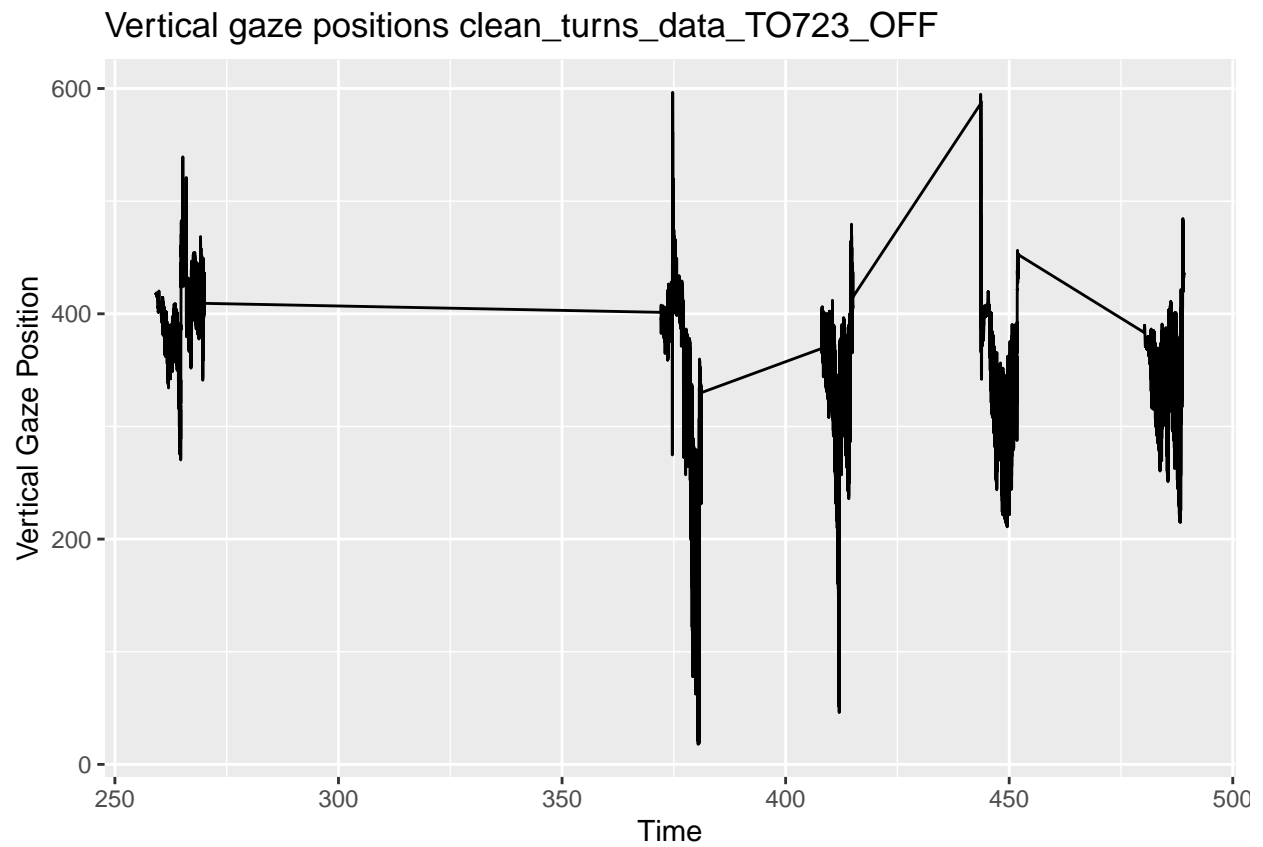
```
## Saving 6.5 x 4.5 in image
```

Horizontal gaze positions clean\_turns\_data\_SZ464\_EC



## Saving 6.5 x 4.5 in image

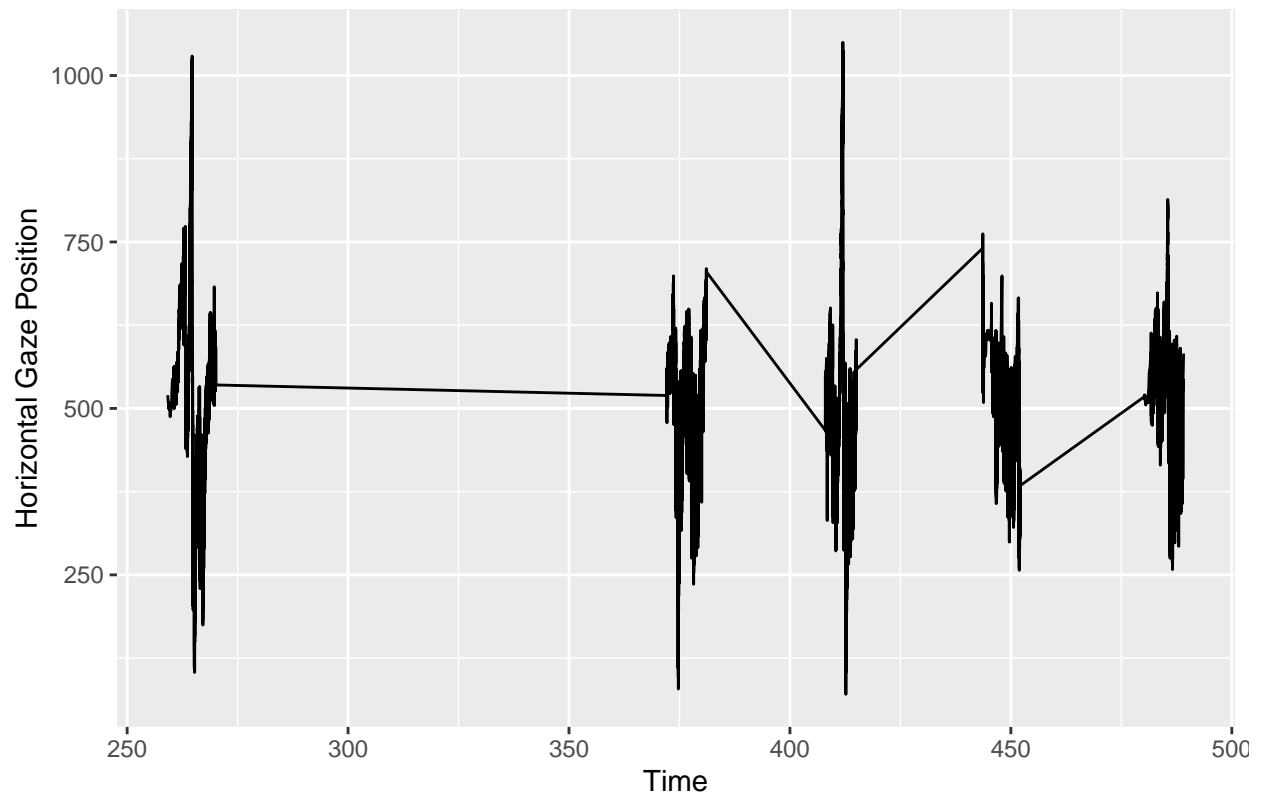




## Graphs created for patient: clean\_turns\_data\_T0723\_OFF

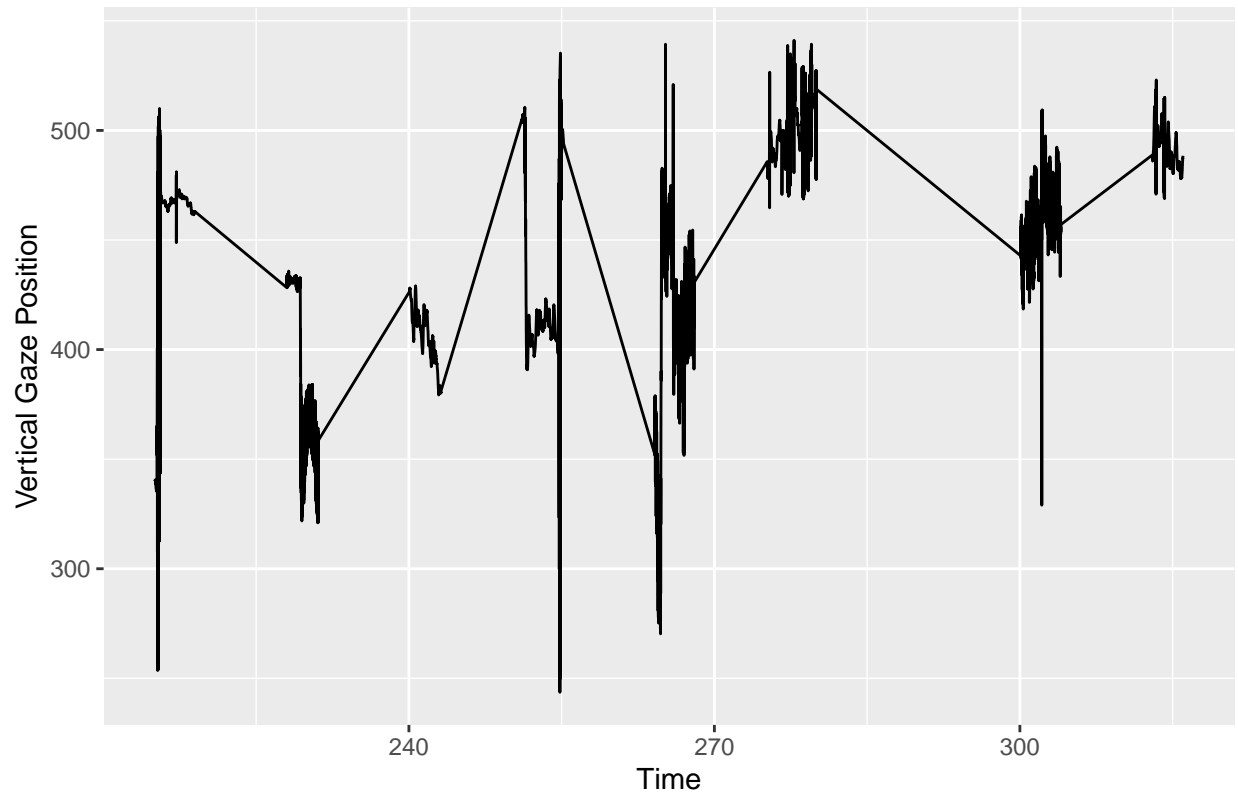
## Saving 6.5 x 4.5 in image

Horizontal gaze positions clean\_turns\_data\_TO723\_OFF



## Saving 6.5 x 4.5 in image

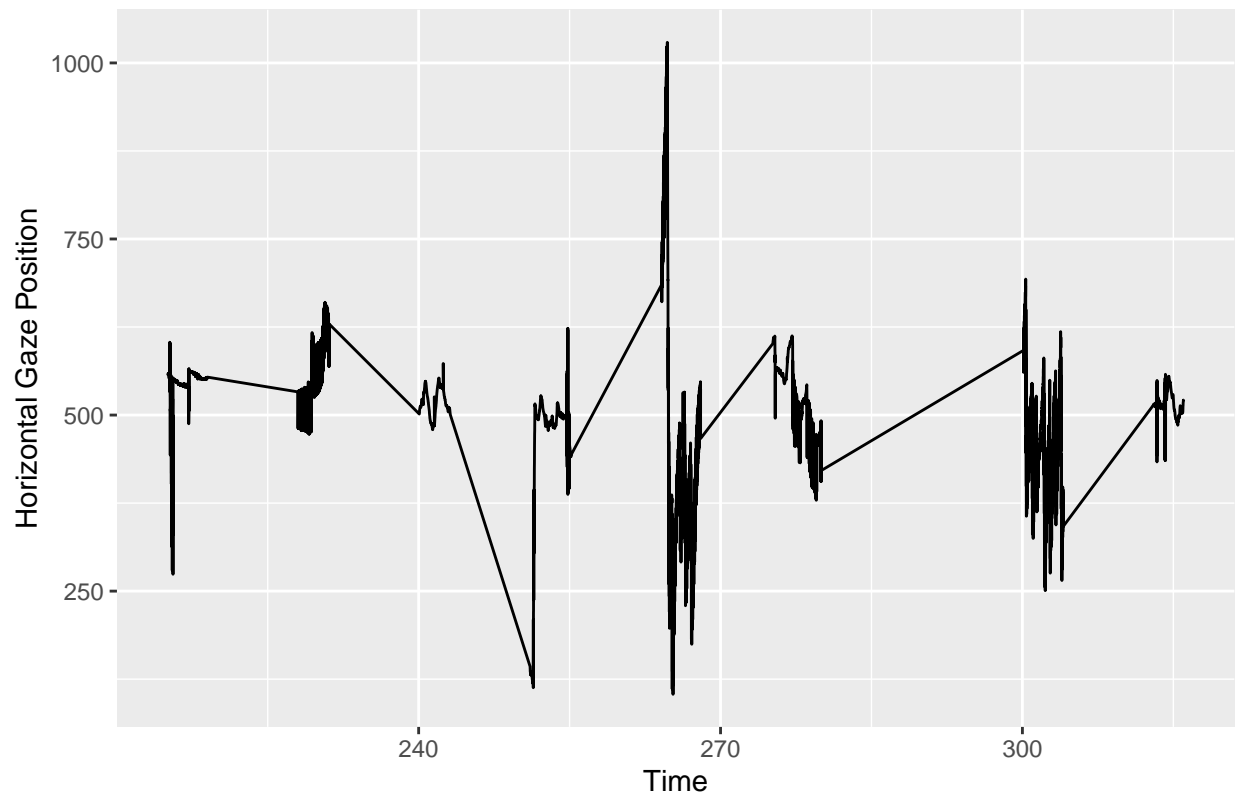
Vertical gaze positions clean\_turns\_data\_T0723\_ON



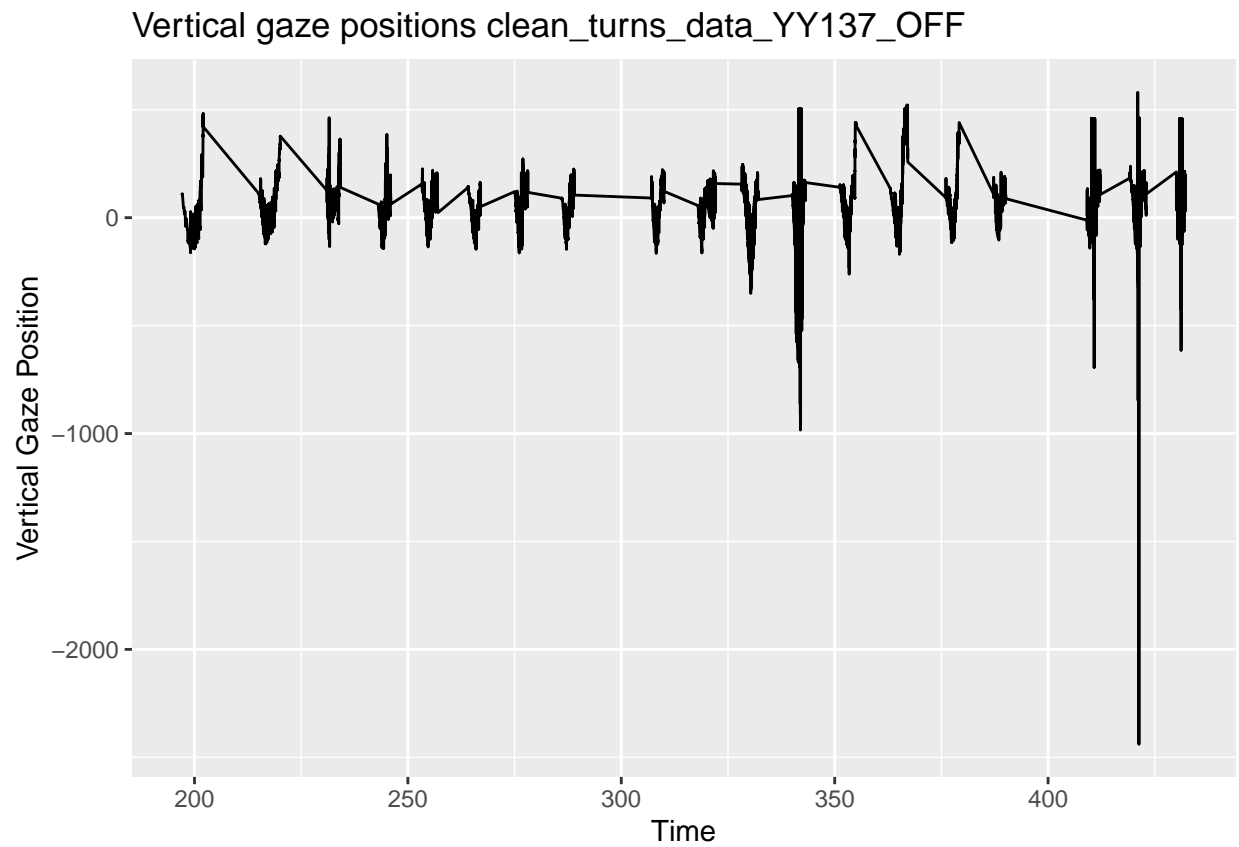
```
## Graphs created for patient: clean_turns_data_T0723_ON
```

```
## Saving 6.5 x 4.5 in image
```

Horizontal gaze positions clean\_turns\_data\_TO723\_ON



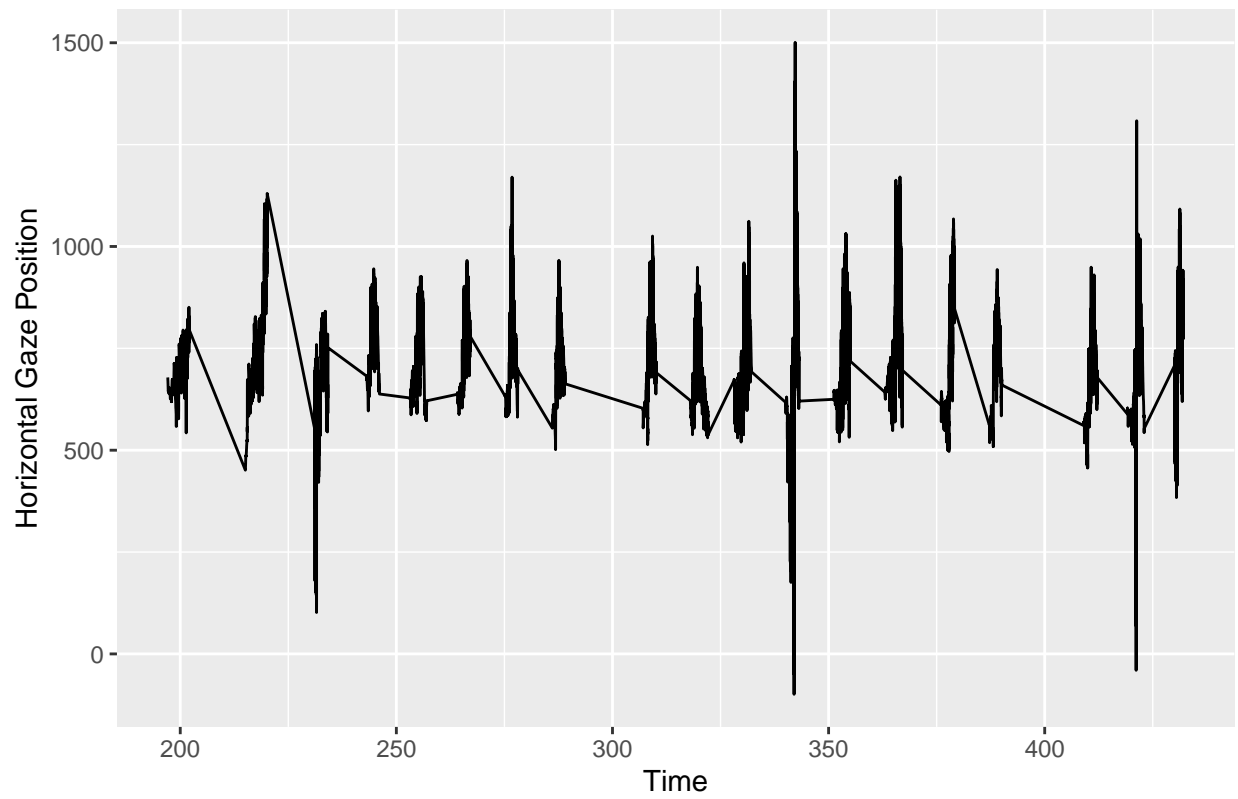
## Saving 6.5 x 4.5 in image



```
## Graphs created for patient: clean_turns_data_YY137_OFF
```

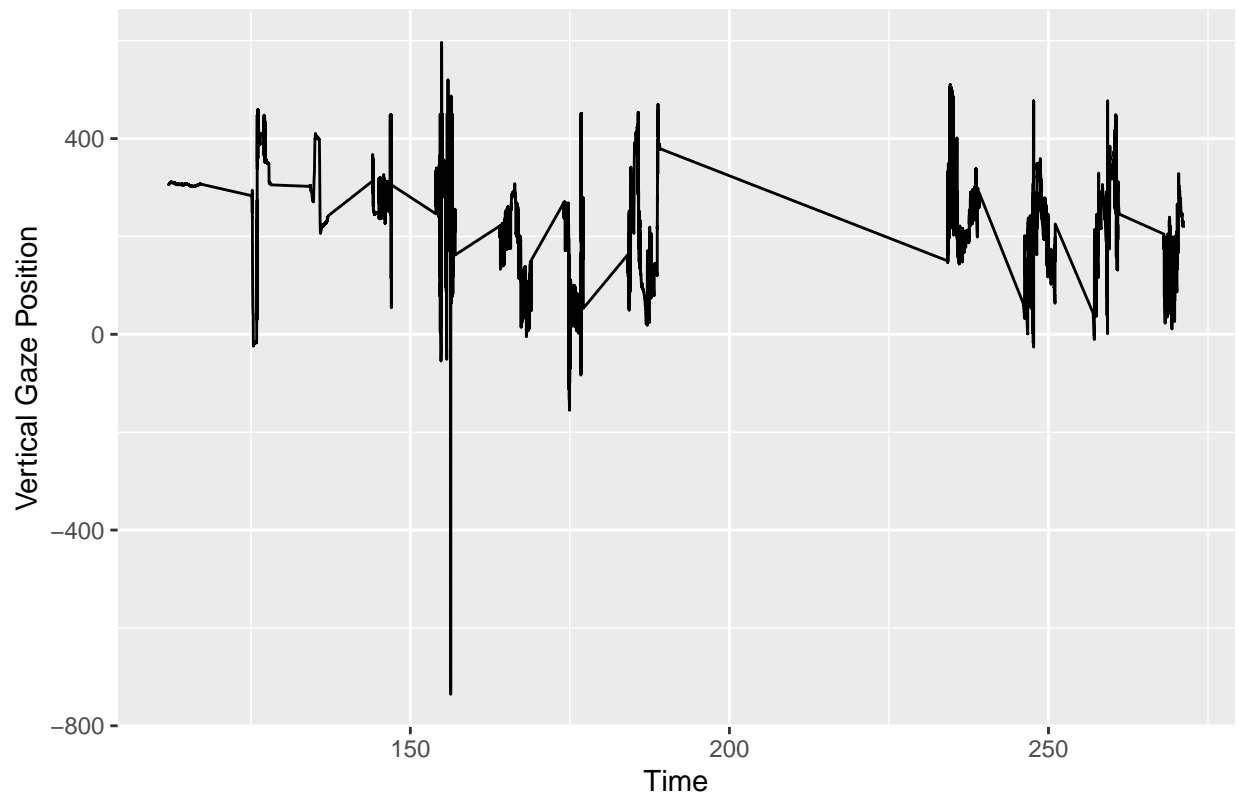
```
## Saving 6.5 x 4.5 in image
```

Horizontal gaze positions clean\_turns\_data\_YY137\_OFF



## Saving 6.5 x 4.5 in image

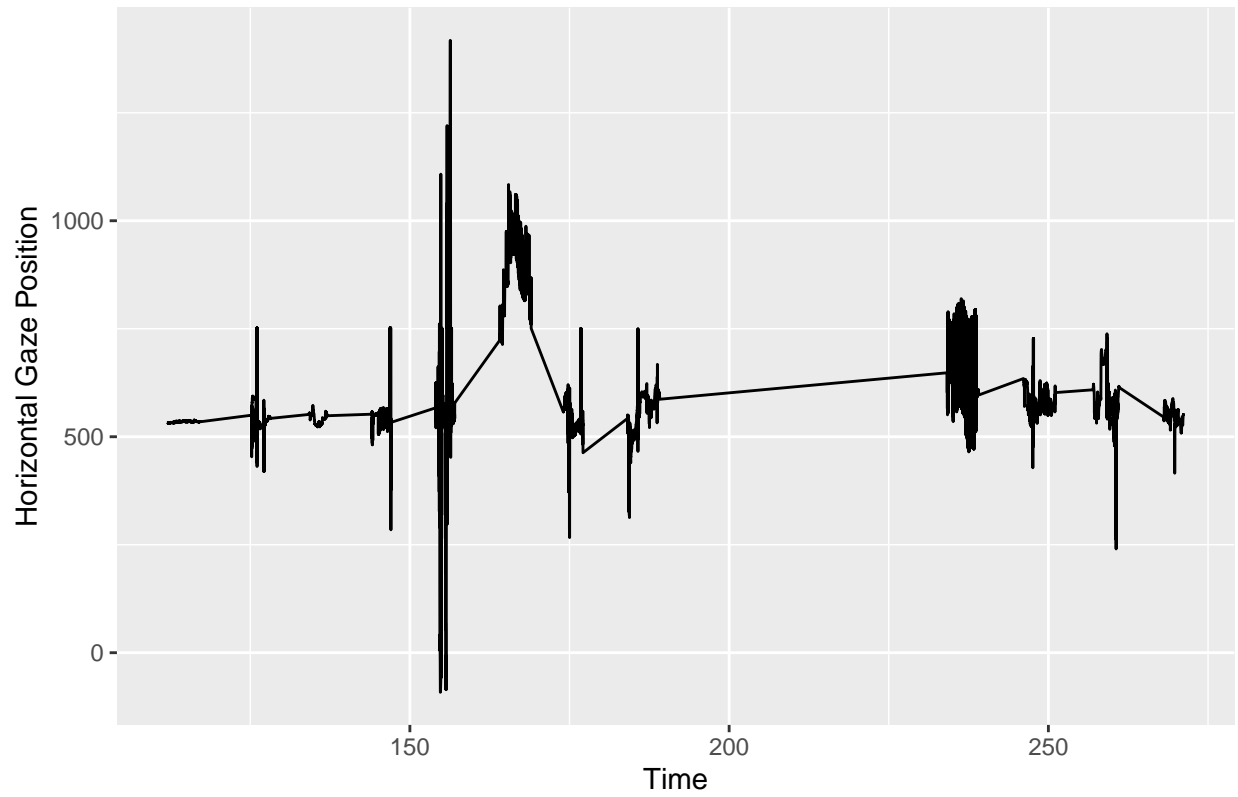
Vertical gaze positions clean\_turns\_data\_YY137\_ON



```
## Graphs created for patient: clean_turns_data_YY137_ON
```

```
## Saving 6.5 x 4.5 in image
```

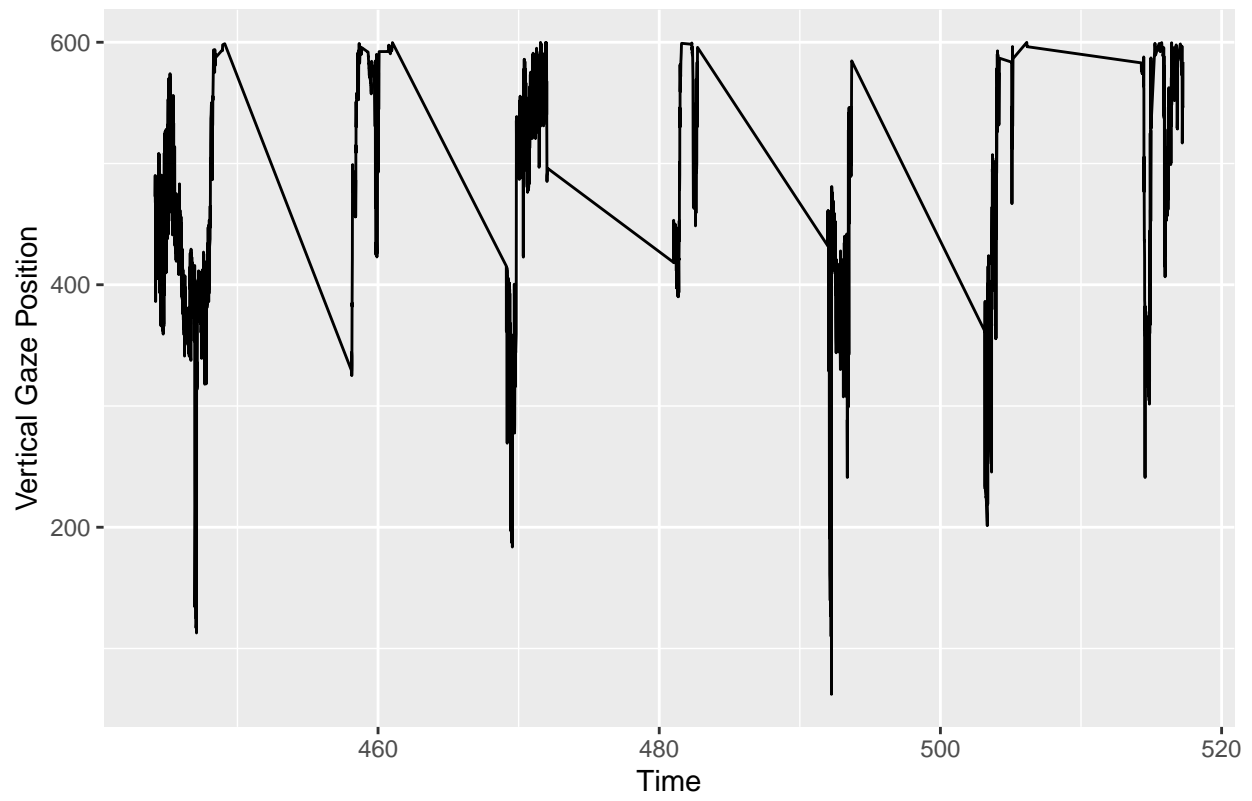
Horizontal gaze positions clean\_turns\_data\_YY137\_ON

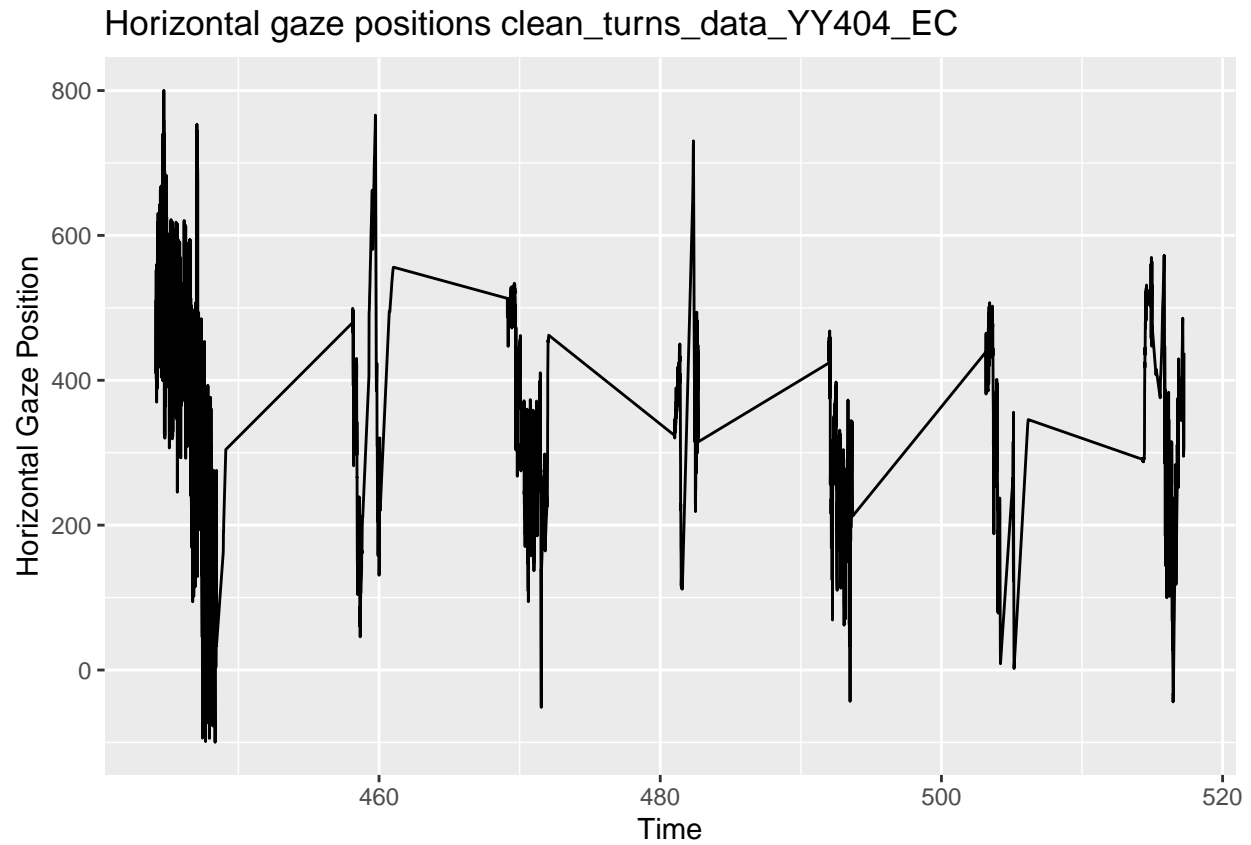


## Saving 6.5 x 4.5 in image



Vertical gaze positions clean\_turns\_data\_YY404\_EC





```
## Graphs created for patient: clean_turns_data_YY404_EC
```

```
## [[1]]
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## NULL  
##  
## [[24]]  
## NULL
```

```
#summary(cars)
```