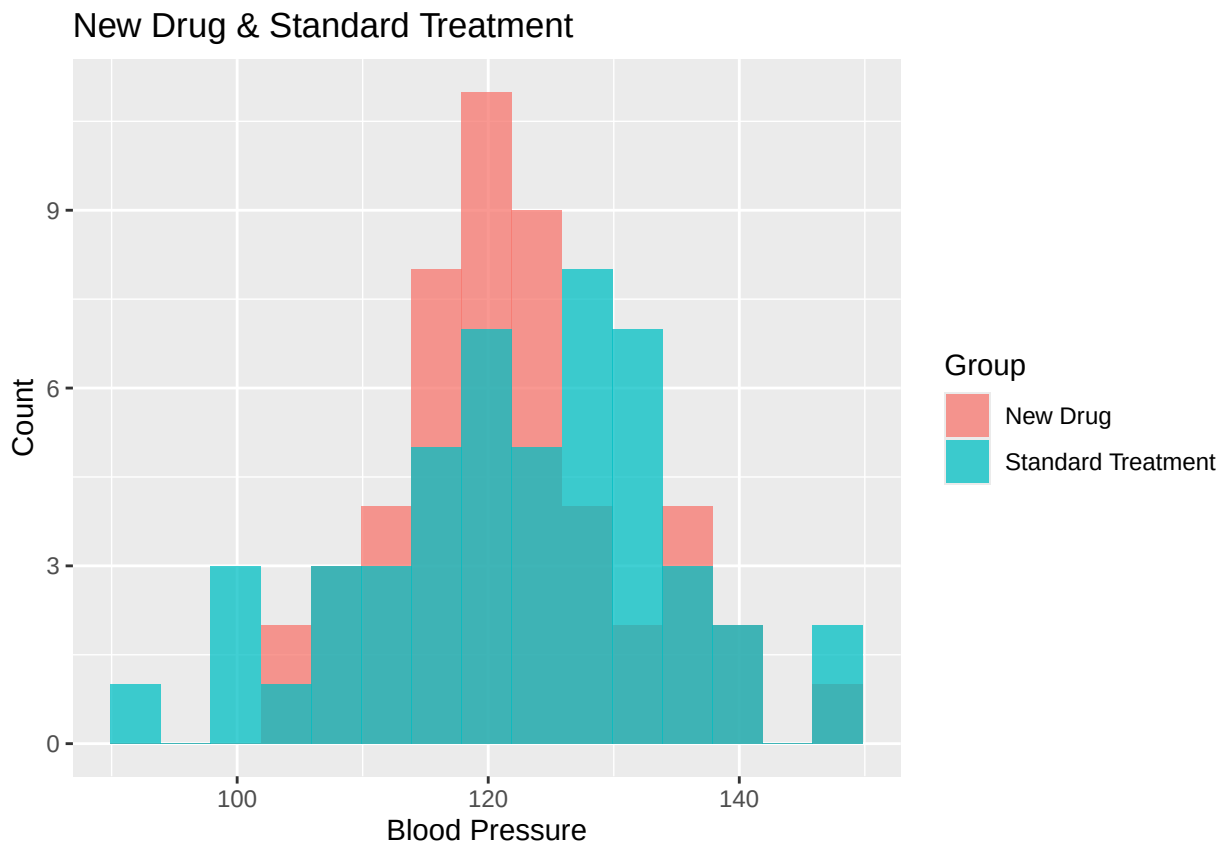
1) Simulate data

```
new_drug = rnorm(50, mean = 120, sd = 10)
standard = rnorm(50, mean = 125, sd = 12)
```

2) Plot histograms

```
library(ggplot2)
data = data.frame(
  BloodPressure = c(new_drug, standard),
  Group = factor(rep(c("New Drug", "Standard Treatment"), each = 50))
)
ggplot(
  data,
  aes(x = BloodPressure, fill = Group)
) + geom_histogram(alpha = .75, position = "identity", bins = 15
) + labs(title = "New Drug & Standard Treatment", x = "Blood Pressure", y = "Count"
)
```



3) T-test

```r
t_test_result = t.test(new_drug, standard)
print(t_test_result)
```

```
##
##  Welch Two Sample t-test
##
## data:  new_drug and standard
## t = -0.4219, df = 90.71, p-value = 0.6741
## alternative hypothesis: true difference in means is not equal to 0
## 95 percent confidence interval:
##  -5.31407  3.45222
## sample estimates:
## mean of x mean of y
##  121.5535  122.4844
```

P value Interpretation: The p value is used to determine significance of a result. The usual significance level it must meet is 0.05, though it is heavily context dependent. In our case the p value was greater than 0.05. Assuming that 0.05 is a good significance level in this context, we CANNOT conclude that the new drug is more effective in reducing blood pressure compared with the standard treatment.