

Tooth Growth Analysis

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Summary

This document shows a quick analysis and statistical comparison of 2 different supplements in 3 different doses for tooth growth.

Data Analysis

Load data

```
library(ggplot2)
library(dplyr)

data("ToothGrowth")
data <- as.data.frame(ToothGrowth)
summary(data)
```

##	len	supp	dose
## Min.	: 4.20	OJ:30	Min. :0.500
## 1st Qu.:	13.07	VC:30	1st Qu.:0.500
## Median	:19.25		Median :1.000
## Mean	:18.81		Mean :1.167
## 3rd Qu.:	25.27		3rd Qu.:2.000
## Max.	:33.90		Max. :2.000

From a quick overview of the data, we can see that there are 2 different supplements (OJ & VC) and the dosage range from 0.5 to 2.

We can plot the samples distribution to get a graphical sense of the difference between supplements and dosage.

```
ggplot(data, aes(x=factor(dose),y=len)) + geom_boxplot() + facet_grid(.~supp) +
  labs(title="Dose vs Length by Supplement Type", y="Length", x="Dose")
```

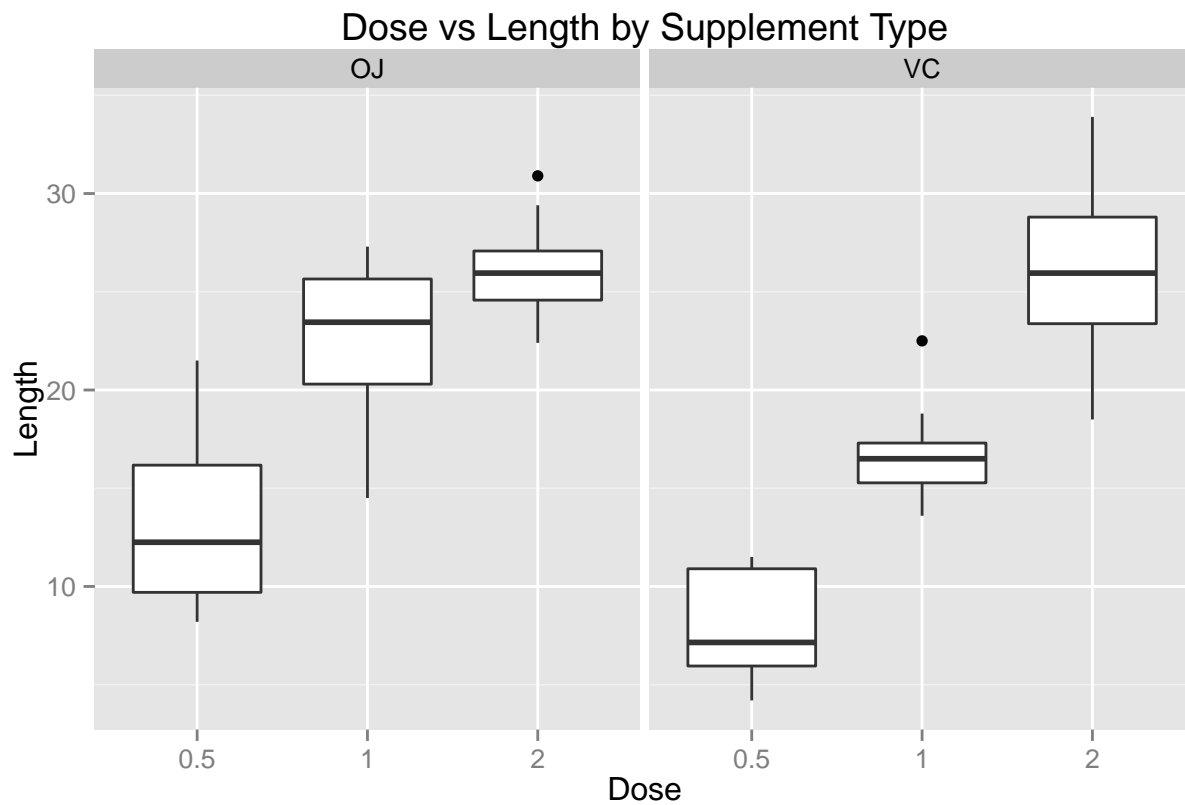


Figure 1. Distribution of tooth length by dosage, grouped by supplement type

Comparison

In order to determine which kind of supplement type is more efficient (if any), we'll perform a dose by dose comparison between them.

Small Dose (0.5)

Medium Dose (1)

Large Dose (2)

Conclusions and Assumptions