

**PURPOSE/BACKGROUND**

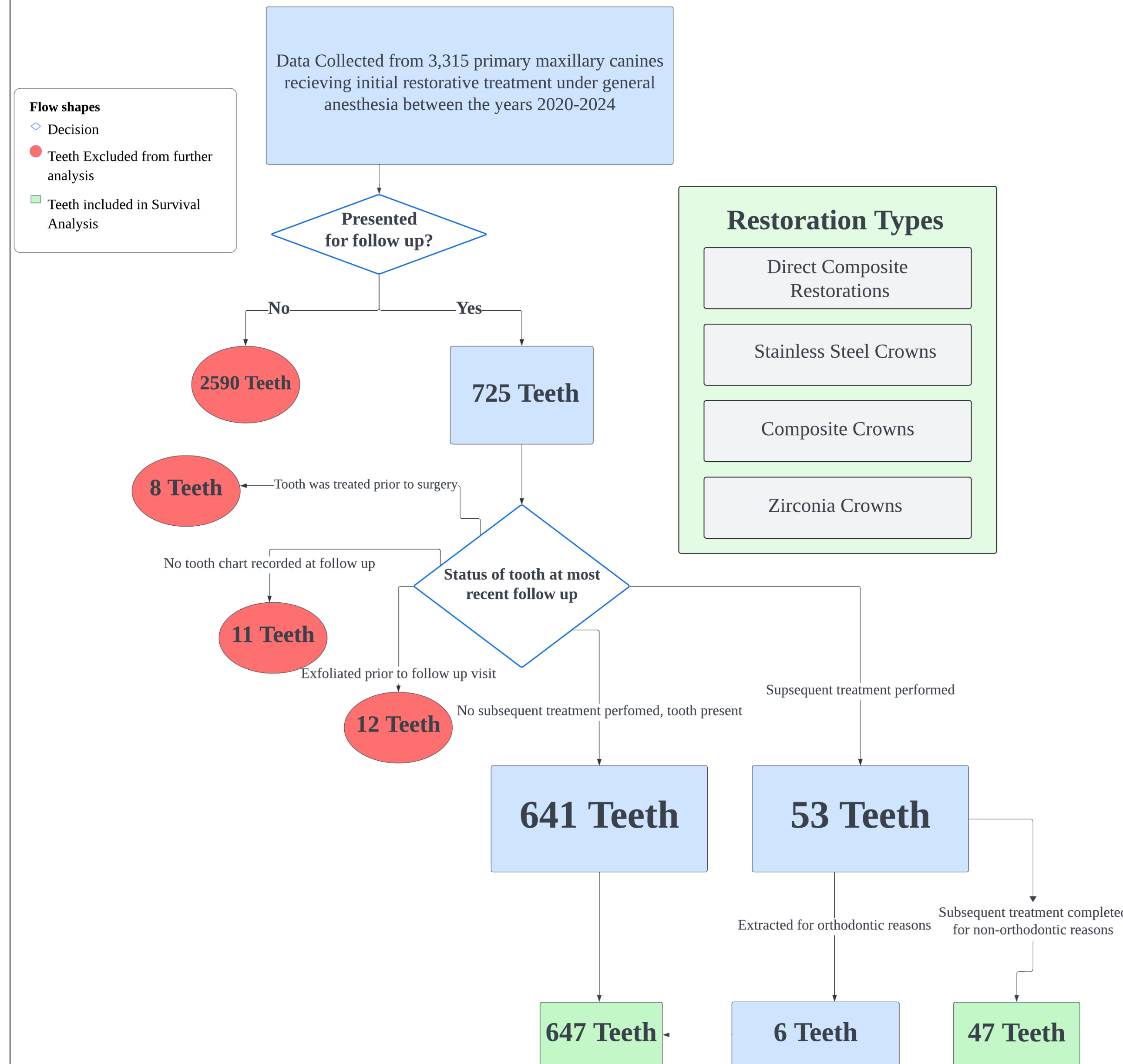
- Composite and zirconia restorations on primary maxillary canines can offer esthetic advantage when compared to stainless steel crowns, but there is little evidence on long-term outcomes.
- There is limited data suggesting a superior restorative choice for anterior restorations under general anesthesia.
- It is important to consider factors such as longevity and survival when determining an appropriate restoration choice.

**RESULTS**

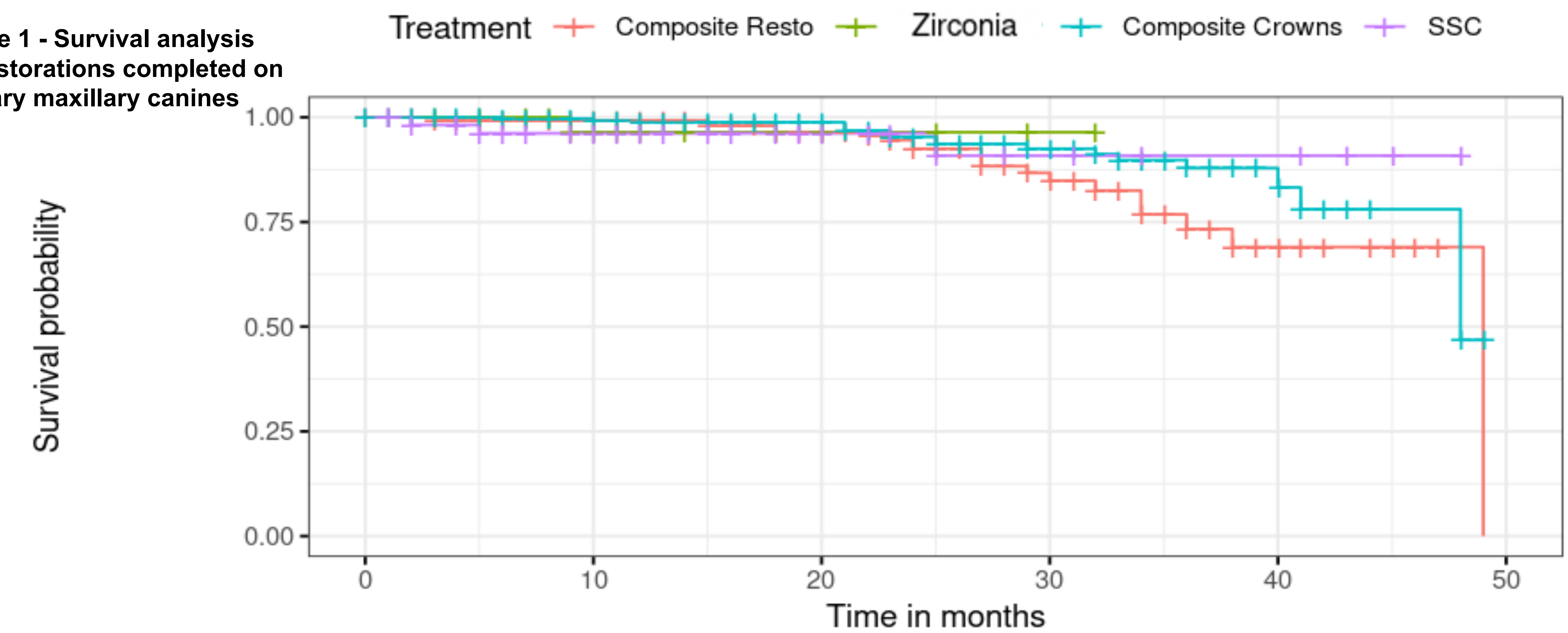
- Of the 694 teeth that met criteria for the survival analysis, 47 restorative failures were observed.
- There is a relative decrease in survival probability for all restoration types after 20 months.
- When controlling for confounding variables, patient age was found as the only significant predictor (p=0.01) for restoration failure amongst all restoration types.

**METHODS**

- Children aged 18 months to 10 years old that received restorative treatment to the primary maxillary canines under general anesthesia at Nationwide Children's Hospital were included in a retrospective chart review.
- The primary measure was subsequent treatment being rendered to a previously-restored tooth (failure) or no further treatment being performed (no failure).
- Using Kaplan Meier survival analysis, restoration failure status and time to failure were analyzed and plotted on a curve.
- Using a Random Effects Cox Proportional Hazards Model, restorative failures were controlled for confounders such as patient age, and demographic data.



**Figure 1 - Survival analysis of restorations completed on primary maxillary canines**



**Number at risk**

Composite Resto	266	192	118	47	11	0
Zirconia	38	24	8	1	0	0
Composite Crowns	333	240	156	76	19	0
SSC	57	40	22	11	6	0



**DISCUSSION**

- Treatment decision making should be driven by several factors including the lifespan of the tooth, patient age, and caries risk level of the patient.
- The decision to complete conservative restorative treatment should be individualized to the patient.
- If new materials continue to show long term success, while also providing superior esthetics, they should be considered an appropriate restorative option when treating primary maxillary canines.

**CONCLUSIONS**

- In this survival analysis, direct composite restorations trended towards a lower survival probability beyond 25 months when compared to full coverage restorations, but the difference was not statistically significant.
- Zirconia crowns may be efficacious treatment options when restoring primary maxillary canines.

**REFERENCES**

