Results

Supervised ML tasks

Duration of response after surgery

0   5   10

| Non-responders | Pain relief for 0-5 years | Pain relief for ≥5 |

Responders

Classifier 1

- Responders vs. Non-responders

- Classification accuracy - 86%

Classifier 2

- Pain relief for <5 Years vs. Pain relief for ≥5 years

- Classification accuracy - 77%

*preliminary report

Background   Goals   Methods   **Results**   Summary

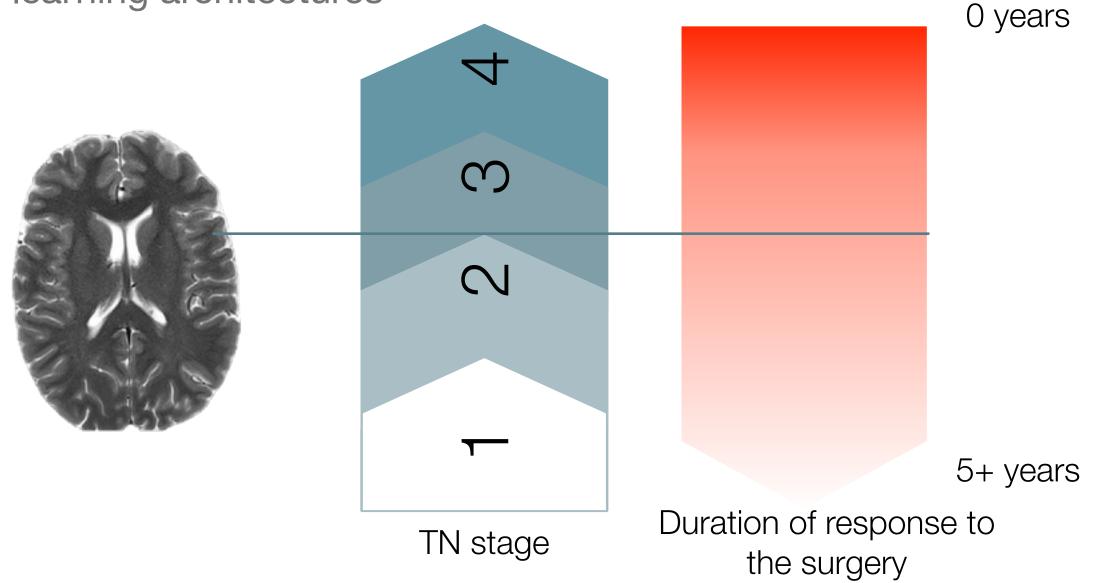# Summary

Future directions

Outcome

- Potential framework to provide a foundation for future development of ML-driven, clinical tools for TN assessment and surgical outcome prognostication.

Key takeaways

- Comparably to imaging data, clinical data may also be applied in ML to better understand and treat TN.

- TN-related features were largely prioritized by unsupervised ML

- **Increase sample size** to better refine dataset and evaluate PC1 vs duration of surgical response correlation.

- **Supervised ML** utilizing advanced imaging data (objective measure) and novel pain grade metric (from subjective reports) to develop a surgical outcome prognostication tool. Exploring deep learning architectures

0 years

4

3

2

1

5+ years

TN stage

Duration of response to the surgery

Background   Goals   Methods   Results   **Summary**

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