Lumbar discectomy can be done on an outpatient or inpatient basis. To identify independent risk factors for complications, patient demographics such as age, sex, and race, preoperative variables such as BMI, recent weight loss, diabetes, and hypertension, and preoperative comorbidities such as coronary artery disease, were evaluated. The goal was to compare the incidence of complications in patients undergoing discectomy between the inpatient and outpatient settings. To determine baseline 30-day complications after spine surgery, including wound complications, hematologic complications, pulmonary complications, and cardiac complications were evaluated. Preoperative variables, including BMI, recent weight loss, diabetes, and hypertension, and preoperative comorbidities, such as significant preoperative testing, were included in the analysis.

**Statistical analysis**
- Univariate comparisons
- Logistic regression
- Matched propensity score analysis
- Propensity score-based model to reduce selection bias
- Matching

**Propensity scores**
- Matching by Hash
  - data outpatients0.rename=(prob_inout=pscoreT)
  - data inpatients0.rename=(prob_inout=pscoreC)
  - set a;
  - if prob_inout=. then delete;
  - RandomNumber=rannu(2011);
  - if inout=0 then output outpatients0; /*Treatment*/
  - if inout=1 then output inpatients0; /*Control*/
  - run;
  - data outpatients0;/*Treatment*/
  - data inpatients0;/*Control*/
  - idC=_n_
  - run;
  - data inpatients0; /*Control*/
  - set inpatients0;
  - idC=_n_
  - run;
  - data outpatients0; /*Treatment*/
  - set outpatients0;
  - idT=_n_
  - run;
  - *Randomly sort the tables;
  - *proc sort data=aa noprint;
  - run;
  - proc freq data=Tinpatients;
  - run;
  - proc freq data=Tinpatients;
  - *after matching evaluation*
  - proc univariate data=aa noprint;
  - *select those matched inpatients*/
  - proc sql noprint;
  - *create table Tinpatients as select a.*,b.*
  - from matched a join inpatients b on a.IdSelectedControl=b.idC;
  - quit;
  - proc freq data=Tinpatients;
  - tables idC;
  - run;
  - proc freq data=Tinpatients;
  - tables IdSelectedControl;
  - run;
  - data analysis;
  - set outpatients Tinpatients;
  - run;
  - data aa;
  - set analysis;
  - proc sql;
  - if pscoreC ne . and pscoreT=. then prob=pscoreC;
  - Run;
  - *after matching evaluation*/
  - proc univariate data=aa noprint;
  - class inflout2;
  - model continuous_variables=inout2 quintile/lackfit risks limits;
  - lsmeans inout2/adjust=tukey pdiff cl;
  - quit;
  - proc glm data=a;
  - class inflout2;
  - model continuous_variables=inout2 quintile/ss3 solution;
  - lsmeans inout2/adjust=tukey pdiff cl;
  - quit;

**CONCLUSION**
- Outpatients have lower peri-operative complication rates than inpatients.
- Risk factors of short term complication: age, diabetes, presence of pre-operative wound infection, blood transfusion, operative time exceeding 150 minutes, and an inpatient hospital stay.

**INTRODUCTION**
- Lumbar discectomy can be done on outpatient or inpatient basis with varied benefits.
- There is no large study comparing the incidence of complications between inpatient and outpatient undergoing discectomy.

**PURPOSE**
- To compare the incidence of complications in patients undergoing discectomy between the inpatient and outpatient settings.
- To determine baseline 30-day complication rates, and
- To identify independent risk factors for complications.

**MATERIALS & METHODS**
- Patients were identified from the ACS NSQIP database from 2005 to 2010 using CPT code 63030. Total 4310 cases.

**Explanatory/Control variables**
- Patient demographics: age, sex, and race.
- Preoperative variables: BMI, recent weight loss, diabetes, and other.
- Preoperative comorbidities: coronary artery disease, and other.
- Operative variables: wound class, ASA class, and other.

**Outcomes**
- 30-day complications after spine surgery include:
  - wound complications
  - pulmonary complications
  - hematologic complication
  - cardiac complication
  - renal complication
  - neurologic complication.
  - And others.

**Statistical analysis**
- Unadjusted univariate comparisons
- Proc t test
- Proc freq
- Propensity score-based model to reduce selection bias
  - matching
  - Regression

**SAS CODES**

**MATCHING BY HASH**

**SAS CODES-cont.**