Table 33-2 Results of Screening for Vertebral Fracture (VFx) Based on >=4 cm Height Loss

Crosstabs allows you to calculate percentages within cells that provide values for sensitivity/specificity and Predictive values. Calculations for likelihood ratios cannot be determined in this way, but can be calculated from Sn and Sp.

The data file contains ordinal scores (cm) for each subject's height loss. The cutoff was >=4 cm. Therefore, values were recoded so that anyone with scores = or > 4 would be considered a positive test.

```
RECODE HL (4 thru Highest=1) (ELSE=0) INTO Test.
VARIABLE LABELS  Test 'Test Result'.
EXECUTE.
CROSSTABS
  /TABLES=HLTest BY VFx
  /FORMAT=AVALUE TABLES
  /CELLS=COUNT COLUMN
  /COUNT ROUND CELL.
```

Crosstabs

To obtain Sn and Sp: Run using Descriptives > Crosstabs > Cells: Counts = Observed, Percentages = Column

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Test Result * Fracture	151	100.0%	0	0.0%	151	100.0%

Test Result * Fracture Crosstabulation

			Fracture		
			No Fx	Fx	Total
Test Result	Negative	Count	70	13	83
		% within Fracture	78.7%	21.0%	55.0%
	Positive	Count	19	49	68
		% within Fracture	21.3%	79.0%	45.0%
Total		Count	89	62	151
		% within Fracture	100.0%	100.0%	100.0%

Column pecents allow us to calculate specificity and sensitivity. Sn = column percent for a = 78.7% (True positives), and Sp = column percent for d = 79% (true negatives). LR+ = Sn/(1-Sp) = .787/(1-.79), LR- = (1-Sn)/Sp = (1-.787)/.79

```
CROSSTABS
  /TABLES=HLTest BY VFx
  /FORMAT=AVALUE TABLES
  /CELLS=COUNT ROW
  /COUNT ROUND CELL.
```

Crosstabs

To obtain predictive values: Run using Descriptives > Crosstabs > Cells: Counts = Observed, Percentages = Rows

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
Test Result * Fracture	151	100.0%	0	0.0%	151	100.0%

Test Result * Fracture Crosstabulation

			Fracture		
			No Fx	Fx	Total
Test Result	Negative	Count	70	13	83
		% within Test Result	84.3%	15.7%	100.0%
	Positive	Count	19	49	68
		% within Test Result	27.9%	72.1%	100.0%
Total		Count	89	62	151
		% within Test Result	58.9%	41.1%	100.0%

Row percents provide predictive values. PV+ = cell a = 84.3%, PV- = 72.1%.

Use online calculators for Sn, Sp, PV and to obtain LR and confidence intervals. A useful tool can be found at: https://ebm-tools.knowledgetranslation.net/calculator/diagnostic/