INTRODUCTION:
Every year there are about 10,000 to 20,000 new cases of osteonecrosis (ON) of the femoral head in the United States only; a rising increment of this disease has been reported on the past few decades. ON manifests itself primarily in young adults in their 20s to 40s and is usually associated with end-stage arthritis, pain and loss of function. The incidence of bilateral ON ranges from 20% to 80%, and is higher in patients treated with steroids. Despite a number of studies relating specific risk factors to this disease, the pathogenesis is still a source of controversy among researchers. Risk factors associated with ON are smoking, alcohol abuse, sickle cell disease, hypertriglyceridemia, hypercholesterolemia, organ transplantation, sitemic lupus, long term exposure to radiation, Gaucher’s disease, Caisson’s disease, and corticoid use. Some patients manifest the disease idiopathically, with no apparent risk factor present. The treatment for ON is still controversial; even thought some investigators have clearly demonstrated that core decompression has promising results if performed in early stage ON, others have been critical and have concluded that the procedure is ineffective and carries significant morbidity. The difference in outcomes between studies may be explained by the use of different surgical techniques, the volume of involvement of the femoral head, or different primary causes. Scarc information is found in the medical literature about patient oriented outcomes in core decompression in ON. Most studies are focused on significant pathological findings, treatment protocols, or association between risk factors and ON. Our objective in this study is to report the results of core decompression in the treatment of ON of the femoral head from a patients perspective.

METHODS:
107 consecutive patients (149 hips) with ON of the femoral head were treated with core decompression in our institution. All surgeries were performed by the senior author at Cedars Medical Center in Miami, Florida. Preoperative diagnosis was established by history, physical examination, radiographic and MRI findings. Patient information was gathered prospectively using a standard preoperative questionnaire which the patient filled out during the first office visit. In addition, QWB and SF-36 assessments were also performed before surgery during the pre-op clinic. These instruments were also used to assess outcome at 6 months and 1 year, and annually thereafter. Patients were contacted for follow up visit either by telephone or in the office for their follow up visit. Surgical outcome after core decompression was assessed using 2 criteria: i) progression to total hip arthroplasty (THA) and ii) QWB and SF-36 outcome instrument post operative scores.

RESULTS:
One hundred and seven (107) patients underwent core decompression during the study period. The mean patient’s age was 42.55 SD ± 12.89 (range 13 – 77 years old). The right side was involved in 30 (28%) of the patients, the left side in 35 (32.7%); 42 (39.3%) of the patients had bilateral involvement. 62 (57.9%) of the patients were male, and 45 (42.1%) female. The average preoperative score for QWB was 555 ± 0.01 S.E and for the 8 subscales of SF-36 were physical function (PF) 25.59 ± 3.4 S.E., role physical (RP) 14.83 ± 3.9 S.E., body pain (BP) 35.86 ± 2.88 S.E., general health (GH) 60.59 ± 2.9, vitality (VT) 51.59 ± 3.29 S.E., social functioning (SF) 45.72 ± 3.5 S.E., role emotional (RE) 40.1 ± 6 S.E and mental health (MH) 66.8 ± 2.5 S.E. The average clinical follow up, with a successful core decompression was 44 months ± 4.1 S.E. Seven patients died without progressing to THA and 8 of the patients were lost to follow up. Thirty two patients (29.9 %) progressed to THA; the average progression to THA was 24 months.. The average postoperative score at last follow up for the whole cohort was statistically significantly in the QWB Total 613 ± 0.15 S.E. (p< 0.001), fig 1. For the 8 subscales of SF–36 were PF 61.20 ± 3.75 S.E. (p=0.001); RP 75.90 ± 5.18 S.E., BP 67.72 ± 2.94 S.E (p=.001), GH 64.74 ± 3.15 S.E (p=.021), VT 62.12 ± 2.25 S.E., SF 77.29 ± 2.84 S.E., RE 86.67 ± 3.83 S.E., MH 71.63 ± 2.29 S.E (p= 0.007) fig 2.

DISCUSSION:
The surgical treatment of early avascular necrosis of the femoral head, is controversial. Our results demonstrate that core decompression is an effective procedure for the treatment of avascular necrosis of the femoral head. Patient oriented outcomes studies have not been reported before in core decompression. SF–36 scores showed a significant improvement of outcome in all of its eight subscales; the same significant results can be seen with QWB . Core decompression surgery is a safe procedure that has good patient oriented outcomes.