**Supplementary Table 3:** Bigram frequency analysis with at least one word identified by NLTK library in the worst reviews.

| **Bigram** | **Frequency** | **Bigram** | **Frequency** |
| --- | --- | --- | --- |
| Pain Free | 196 | Without Pain | 31 |
| No Pain | 132 | Care Dr. | 30 |
| Kind Caring | 90 | Caring Doctor | 29 |
| Truly Cares | 84 | Friendly Professional | 28 |
| Feel Comfortable | 76 | Shoulder Injury | 27 |
| Cares Patients | 75 | Shoulder Problems | 27 |
| Would Definitely | 72 | Shoulder Problem | 26 |
| Friendly Helpful | 72 | Pleased Results | 26 |
| Kind Compassionate | 60 | Take Care | 26 |
| Shoulder Pain | 55 | Compassionate Caring | 26 |
| Easy Talk | 52 | Wonderful Doctor | 26 |
| Make Sure | 51 | Taken Care | 25 |
| Top Notch | 51 | Professional Caring | 25 |
| Caring Compassionate | 48 | Really Cares | 25 |
| Took Care | 47 | Happy Results | 25 |
| Torn Rotator | 47 | Patient Care | 24 |
| Staff Friendly | 44 | Feel Confident | 24 |
| Thanks Dr. | 41 | Grateful Dr. | 24 |
| Family Friends | 40 | Wonderful Bedside | 24 |
| Felt Comfortable | 37 | Definitely Dr. | 24 |
| Much Better | 37 | Put Ease | 23 |
| Friends Family | 34 | Little Pain | 23 |
| Sense Humor | 33 | Easy Understand | 23 |
| Made Sure | 33 | Pain Relief | 22 |
| Care Received | 32 | Care Patients | 22 |