**Supplementary Table 1** The companies of osteosynthesis implant recall

|  |  |
| --- | --- |
| Recall Company | Number |
| Zimmer, Inc. | 70 |
| Synthes, Inc. | 55 |
| Smith & Nephew, Inc. | 26 |
| Stryker, Inc. | 26 |
| Johnson & Johnson Medical Pty Ltd t/a Depuy Synthes | 21 |
| Biomet, Inc. | 17 |
| DePuy Orthopedics Inc | 11 |
| Exactech, Inc. | 5 |
| Pega Medical Inc. | 5 |
| Unrecorded | 5 |
| OrthoPediatrics Corp | 4 |
| Tornier Pty Ltd | 4 |
| Arthrex, Inc. | 3 |
| Emergo Asia Pacific Pty Ltd T/a Emergo Australia | 3 |
| Medacta Pty Ltd | 3 |
| Medtronic Inc | 3 |
| NuVasive, Inc | 3 |
| PioneerSurgical Technology, Inc. | 3 |
| Acumed LLC | 2 |
| Integra LifeSciences Corporation | 2 |
| Jiangsu IDEAL MEDICAL Science and Technology Co., Ltd | 2 |
| Lima Orthpedics Technology Pty Ltd | 2 |
| Orthofix, Inc | 2 |
| Shanghai Pudong Jinhuan Medical Products Co., Ltd | 2 |
| Signature Orthopedics Pty Ltd | 2 |
| Wright Medical Australia Pty Ltd | 2 |
| aap Implantate AG | 1 |
| Advanced Surgical Design & Manufacture Ltd | 1 |
| Aesculap AG | 1 |
| Akva Surgical | 1 |
| Anjon Holdings | 1 |
| Aplus（Shanghai）trading Co., Ltd | 1 |
| Baxter Healthcare Pty Ltd | 1 |
| Bioplate, Inc. | 1 |
| CareFusion Australia 316 Pty Ltd | 1 |
| Ceraver Les Laboratoires Osteal médical | 1 |
| Evolution Surgical Pty Ltd | 1 |
| EXP Pharmaceutical Services Corp | 1 |
| General Care（Shanghai） Co., Ltd | 1 |
| Howmedica Osteonics Corporation | 1 |
| Implant Innovations Inc. | 1 |
| In2Bones, SAS | 1 |
| Integra Neurosciences Pty Ltd | 1 |
| Kalaparna Pty Ltd | 1 |
| LIBEIER An AK MEDICAL Company | 1 |
| Life Healthcare Pty Ltd | 1 |
| Medos International SARL | 1 |
| Merete Medical GmbH | 1 |
| Newdeal Sas Imeuble | 1 |
| Nextremity Solutions | 1 |
| Orthovita Inc. | 1 |
| Scientx Australia | 1 |
| Shanghai MiroPort Orthopedics Co., Ltd | 1 |
| Shanghai Puwei Medical Instrument Factory Co., Ltd | 1 |
| Shitaibao Orthopedic Implant Co., Ltd | 1 |
| Steris Corporation | 1 |
| TriMed Inc. | 1 |
| Vascutek Limited a Terumo Compony | 1 |

**Supplementary Table 2** The companies of joint replacement implant recall

|  |  |
| --- | --- |
| Recall Company | Number |
| Zimmer, Inc. | 88 |
| Smith & Nephew, Inc. | 53 |
| Biomet, Inc. | 32 |
| Depuy Orthopedics Inc | 17 |
| Stryker, Inc | 15 |
| Howmedica Osteonics Corp. | 13 |
| MicroPort Orthopedics, Inc. | 7 |
| Global Orthopedic Technology Pty Ltd | 5 |
| Medacta, Inc | 5 |
| Wright Medical Technology Inc | 5 |
| Amplitude Australia Pty Ltd | 4 |
| Corin Ltd | 4 |
| Encore Medical, Lp | 4 |
| Tornier, Inc | 4 |
| Bangmei（Shanghai）Co., Ltd | 3 |
| Exactech, Inc. | 3 |
| Johnson & Johnson Medical Pty Ltd t/a Depuy Synthes | 3 |
| Ceraver Les Laboratoires Osteal medical | 2 |
| Tian Xin Fu（Beijing）Medical Appliance Co., Ltd | 2 |
| Unrecorded | 2 |
| Advanced Surgical Design & Manufacture Ltd | 1 |
| Arthrosurface, Inc.  | 1 |
| B Braun Australia Pty Ltd | 1 |
| Integra LifeSciences Corp. | 1 |
| Integra Neurosciences Pty Ltd | 1 |
| Lima Orthpedics Technology Pty Ltd | 1 |
| Mathys Orthopedics Pty Ltd | 1 |
| MAXONIQ Pty Ltd | 1 |
| OMNI life science Inc. | 1 |
| Orthotech Pty Ltd | 1 |
| RQ Solutions Medical Devices Distribution Support Pty Ltd | 1 |
| Signature Orthopedics Pty Ltd | 1 |
| Surgical Specialties Pty Ltd | 1 |
| United Medical Device Co., Ltd | 1 |
| France serf | 1 |

**Supplementary Table 3** The classification of osteosynthesis implant recall

|  |  |
| --- | --- |
| Product classification | Number |
| Single/multiple component metallic bone fixation appliances and accessories | 200 |
| Metal intramedullary device | 80 |
| Metal bone fasteners with smooth surfaces or threads | 31 |
| Metal fixing Cerclage device | 4 |

**Supplementary Table 4** The classification of joint replacement implant recall

|  |  |
| --- | --- |
| Product classification | Number |
| hip prosthesis | 143 |
| Knee prosthesis | 104 |
| Shoulder prosthesis | 23 |
| Elbow prosthesis | 8 |
| Ankle prosthesis | 6 |
| Temporomandibular joint prosthesis | 2 |