an estimated calculation of costs-to-charges from the Medicare Cost Report. Regression modeling with log transformation was employed to compare differences in fixed hospital costs (those insensitive to volume), variable costs (those sensitive to volume), and post-operative LOS. Control variables included age, gender, All Patient Refined-Diagnosis Related Group severity codes, region, hospital teaching status, bed size, population served (urban or rural), and primary payer. RESULTS: A total of 82,788 discharges were included. The models demonstrated that patients who received Gelfoam + thrombin had higher fixed and variable costs (+6.1% and +7.3%, respectively, p < 0.01) and Surgicel + thrombin patients had higher fixed and variable costs (+18% and +10%, p < 0.01, respectively) compared to FloSeal only. In terms of fixed costs, the predicted increase was $15,956 for Gelfoam + thrombin and $18,639 for Surgicel + thrombin patients. In terms of variable costs, the predicted increase was $25,413 per Gelfoam + thrombin and $24,909 per Surgicel + thrombin patient. Surgicel+ thrombin patients also had higher (+6%, p < 0.01) post-operative LOS compared to FloSeal patients. CONCLUSION: FloSeal demonstrated significant cost reductions and post-operative LOS, compared to other commonly-used products. Limited prospective reimbursements based on a DRG system make it necessary for health care providers to consider more cost-effective surgical aids for spinal surgeries.

COST-EFFECTIVENESS MODELING OF DENTAL IMPLANT 1ST LINE STRATEGY VERSUS BRIDGE
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OBJECTIVE: We assessed the cost-effectiveness of dental implant 1st line strategy versus fixed partial denture (and denture) in patients suffering from one single missing tooth.

METHODS: The model used a simulation decision framework over a 20-year period. Potential treatment switches can occur every 5 years. Transition probabilities came from literature, epidemiological reports or expert opinions. They have been programmed using specific distribution ranges to simulate the patients and practice variability, and to take into account parameters uncertainty. Direct medical costs have been assessed according to a specific cost survey in France. Probabilistic sensitivity analyses were conducted using 5000 Monte-Carlo simulations generating confidence intervals of model outcomes. RESULTS: The cost distribution indicates a peak at €3000 for the bridge strategy. The distribution for the implant strategy is more flat, showing the maximum ranging from €2500 to €3500. The model simulations establish that total mean cost of the bridge 1st line strategy is €4385 per patient over 20 years (minimum: €1850; maximum: €172,267), providing 69% of success rate. Total mean cost of the implant 1st line strategy is €3517 per patient over 20 years (minimum: €19990 Euros; maximum: €10,221 Euros), with 92% of success rate. Differences are statistically significant for both total mean costs (p < 0.001) and success rate (p < 0.001). The mean cost-effectiveness (cost per functional dental unit in position) is shown in Figure 3c. It indicates that the bridge strategy is significantly higher (p < 0.001) than the implant strategy with €6286/success versus 3819 Euros/success respectively.

CONCLUSION: This simulation modeling approach is the very first robust model in the field of implantology. Implant as the 1st line strategy appears to be the “dominant” strategy, considering the lower overall costs and the higher success rate.

COST-EFFECTIVENESS ANALYSIS OF THROMBOPROPHYLACTIC STRATEGIES OVER 1 YEAR AFTER TOTAL HIP REPLACEMENT IN VETERAN PATIENTS
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OBJECTIVE: For 20 years, thromboprophylactic strategies (TSs) have been used after total hip replacement (THR). Our objective was to conduct a comprehensive cost effectiveness analysis (CEA) of TSs for THR from the health payer perspective. METHODS: We extracted national data for Veteran patients receiving THR, including 1-year follow-up of all health care utilization and complications of venous thromboembolic events (VTE: deep vein thrombosis, pulmonary embolism), thrombocytopenia, bleeding, and death. Diagnostic codes were used to identify most complications. A comparative CE model, incorporating fondaparinux, was developed. Incremental cost-effectiveness ratios (ICERs) were calculated to compare TSs. Life-years gained (LYG) were calculated using actuarial tables for life expectancy. Since fondaparinux was rarely used in the VA, we applied rates from published trials and used our data to estimate proportional increases in complication rates for fondaparinux from day 50 through one year. We applied VA costs. Fondaparinux costs were based upon mean costs of outcomes of the other TSs. One-way sensitivity analyses (SA) were performed by incorporating the mean probabilities of DVT in the other TSs into the least-costly TS or decreasing the costs of complication arms by one standard deviation in all but the least-costly TS. RESULTS: There were 1722 patients, 90 VTEs, and 48 deaths. Dalteparin was dominant; the least-costly per patient with fewest VTEs ($18,850, 2.4%) compared to warfarin ($18,953, 6.4%), enoxaparin ($19,965, 2.7%), enoxaparin/warfarin ($24,809, 21.6%), and fondaparinux ($20,759, 5.2%). Thus, ICERS indicated more costs and more events with other TSs. Deaths occurred in 2.4% of dalteparin patients versus 2.3% for enoxaparin and, estimated, 1.0%, for fondaparinux, thus ICERS for LYG were $35,754/LYG and $6,381/LYG, respectively. Dalteparin and other treatments were dominant over warfarin (2.9% deaths) and enoxaparin/warfarin (6.0% deaths) for LYG. Each SA showed dalteparinux remained the least-costly TS per VTE avoided. CONCLUSION: Dalteparin was slightly more effective and less costly.

COST-EFFECTIVENESS ANALYSIS OF THROMBOPROPHYLACTIC STRATEGIES OVER ONE YEAR AFTER TOTAL KNEE REPLACEMENT IN VETERAN PATIENTS
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OBJECTIVE: There is a lack of cost effectiveness (CE) analyses of thromboprophylactic strategies (TSs) for total knee replacement (TKR) that incorporate outpatient care, long-term follow-up, or complications besides venothrombotic events (VTE: deep vein thrombosis, pulmonary embolism). The objective was to assess the CE of TSs for TKR from the health payer perspective including complications of VTE, hemorrhage, thrombocytopenia, and death. METHODS: We searched national Veterans Affairs (VA) datasets for all health care use, outcomes and VA costs for patients receiving TKR within one year. Our follow-up was one year. Diagnostic codes were used to identify complications. Life-years gained (LYG) were calculated using actuarial
OBJECTIVE: To compare the cost-effectiveness of tension-free mesh and tension suture methods of inguinal hernia repair in Poland, from hospital and payer perspectives. METHODS: Cost effectiveness of open mesh vs open non mesh was modeled with a Cohort Markov model. Model simulation runs in yearly cycles up to 15 years. Transition probabilities were derived from systematic review and other published sources. Costs were collected from four hospitals and from the payer in Poland. Utility values were extracted from the published sources. Both costs and outcomes were discounted annually at 5%. In probabilistic sensitive analysis simulations were repeated 10,000 times. CEAC curves were generated as a result of simulation for all scenarios. RESULTS: Over a 5 and 15 year period open mesh provides greater benefits in terms of more QALYs and fewer recurrences at a cumulatively higher cost than open non mesh. The cost per one additional QALY is €16,730 in a 5 year time horizon and €3236 in a 15 year time horizon from a payer perspective (€16,485 and €3061 respectively). Cost per one recurrence avoided is €1096 in a 5 year time horizon and €199 in a fifteen years time horizon from a payer perspective (€1103 and €188 respectively). Results from the probability sensitivity analysis are very similar to deterministic analyses. In the five year perspective open mesh is more cost effective in comparison to the open non mesh option when the value for society’s willingness to pay for a QALY exceeds €10,000 (€500 in the 15 years perspective). CONCLUSION: Findings suggest open mesh hernia repair method as a very cost effective therapy from both hospitals and payer perspectives for the inguinal hernia treatment in Poland.

COST-EFFECTIVENESS COMPARISON OF TENSION-FREE MESH REPAIR VS. TENSION SUTURE REPAIR METHODS OF INGUINAL HERNIA IN HUNGARY
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OBJECTIVE: The objective of this study was to compare the cost-effectiveness of tension-free mesh and tension suture methods of inguinal hernia repair in Hungary, from hospital and payer perspectives. METHODS: Cost effectiveness of open mesh vs. open non mesh was modeled with a Cohort Markov model. Model simulation runs in yearly cycles up to 15 years. Transition probabilities were derived from systematic review and other published sources. Costs were collected from two hospitals and from the payer in Hungary. Utility values were extracted from the published sources. Both costs and outcomes were discounted annually at 5%. In probabilistic sensitive analysis simulations were repeated 10,000 times. CEAC curves were generated as a result of simulation for all scenarios. RESULTS: Over a 5 and 15 year period open mesh provides greater benefits in terms of more QALYs and fewer recurrences at a cumulatively higher cost than open non mesh procedures. Cost per one additional QALY is €13,221 in a 5 years time horizon and €2819 in a 15 years time horizon from a payer perspective. Cost per one recurrence avoided is €885 in a 5 years time horizon and €173 in a 15 years time horizon from payer perspective. When the costs from a hospital perspective are used the open mesh option is the dominant technology over the open non mesh option. Results in the probability sensitivity analysis are very similar to deterministic analysis. In the five year perspective open mesh is the more cost effective option in comparison to open non mesh option when the value for society’s willingness to pay for a QALY exceeds €6000 (€700 in the 15 years perspective). CONCLUSION: Findings suggest open mesh hernia repair method as a very cost effective therapy from both hospitals and payer perspectives for the inguinal hernia treatment in Hungary.