Table 108. Strength of applicability for the body of evidence evaluating mortality in patients who had major orthopedic surgery

| Comparison | Strength of applicability | Conclusion with description of applicability |
| --- | --- | --- |
| Pharmacologic prophylaxis versus no prophylaxis | Low | Compared to no prophylaxis, patients who had major orthopedic surgery and received pharmacologic prophylaxis did not have a difference in the odds of mortality. Data is highly applicable to hip replacement surgery, but has limited applicability to total knee replacement and hip fracture surgery. Data has limited applicability to primary and no applicability to revision surgery. Applicability is limited due to the short duration of follow up and because the majority of trials were conducted outside of the United States. |
| Mechanical prophylaxis versus no prophylaxis | NA | No data |
| Oral antiplatelet agents versus oral vitamin K antagonists | Low | Compared to oral vitamin K antagonists, patients who had major orthopedic surgery and received oral antiplatelet agents did not have a difference in the risk of mortality. Applicability is limited because the type of surgery; primary or revision was not reported. Data is highly applicable to the hip fracture surgery. Data is not applicable to primary or revision total hip or knee replacement surgery. |
| Oral antiplatelet agents versus mechanical prophylaxis | NA | No data |
| Injectable low molecular weight heparin agents versus injectable unfractionated heparin | Low | Compared to injectable unfractionated heparin, patients who had major orthopedic surgery and received injectable low molecular weight heparin agents did not have a difference in the odds of mortality. Applicability is limited by the short duration of follow up and because the majority of trials were conducted outside of the United States. Applicability is limited because the type of surgery; primary or revision is not reported. Data is moderately applicable to total hip replacement and hip fracture surgery. Data is not applicable to total knee replacement surgery. |
| Injectable low molecular weight heparin agents versus injectable or oral factor Xa inhibitors | Low | Compared to injectable or oral factor Xa inhibitors, patients who had major orthopedic surgery and received injectable low molecular weight heparin agents did not have a difference in the odds of mortality. Applicability is limited by the duration of follow up. Data has moderate applicability to primary or revision total hip replacement surgery. Data has a low level of applicability to primary hip fracture surgery and revision total knee replacement surgery. |
| Injectable low molecular weight heparin agents versus injectable or oral direct thrombin inhibitors | Low | Compared to injectable or oral direct thrombin inhibitors, patients who had major orthopedic surgery and received injectable low molecular weight heparin agents did not have a difference in the risk of mortality. Applicability is limited by the duration of follow up and because the majority of trials were conducted outside of the United States. Data is moderately applicable to primary total knee or total hip replacement surgery. Data is not applicable to primary or revision hip fracture surgery. |
| Injectable low molecular weight heparin agents versus oral vitamin K antagonists | Moderate | Compared to oral vitamin K antagonists, patients who had major orthopedic surgery and received injectable low molecular weight heparin agents did not have a difference in the odds of mortality. Applicability is limited due to the short duration of follow up. Data is highly applicable to primary or revision total knee and hip replacement surgery but not applicable to primary or revision hip fracture surgery. |
| Injectable low molecular weight heparin agents versus mechanical prophylaxis | Low | Compared to mechanical prophylaxis, patients who had major orthopedic surgery and received injectable low molecular weight heparin agents did not have a difference in the odds of mortality. Applicability is limited due to the short duration of follow up and because the trials were conducted outside of the United States. Data is moderately applicable to primary total knee and hip replacement surgery. Data is not applicable to primary or revision hip fracture surgery. |
| Injectable unfractionated heparin versus injectable or oral direct thrombin inhibitors | Low | Compared to injectable or oral direct thrombin patients who had major orthopedic surgery and inhibitors injectable unfractionated heparin did not have a difference in the odds of mortality. Applicability is limited due to the short duration of follow up. Applicability is limited because the type of surgery; primary or revision is not reported and because the trials were conducted outside of the United States. Data is moderately applicable to total knee and hip replacement and hip fracture surgery. |
| Injectable unfractionated heparin versus injectable or oral factor Xa inhibitors | Low | Compared to injectable unfractionated heparin patients who had major orthopedic surgery and received injectable or oral factor Xa inhibitors had a decreased rate of mortality. Applicability is limited due to the short duration of follow up. Data is highly applicable to primary total hip replacement surgery. Data is not applicable to primary or revision total knee or hip fracture surgery. |
| Injectable unfractionated heparin versus mechanical prophylaxis | Low | Compared to mechanical prophylaxis, patients who had major orthopedic surgery and received injectable unfractionated heparin did not have a difference in the odds of mortality. Applicability is limited due to the short duration of follow up and because the trial was conducted in Italy. Data is highly applicable to primary total hip replacement surgery. Data is not applicable to revision or primary total knee replacement or hip fracture surgery. |
| Oral vitamin K antagonists versus mechanical prophylaxis | Low | Compared to mechanical prophylaxis, patients who had major orthopedic surgery and received oral vitamin K antagonists did not have a difference in the odds of mortality. Applicability is limited due to the short duration of follow up. Data is highly applicable to primary total hip replacement surgery. Data is not applicable to revision or primary total knee replacement or hip fracture surgery. |
| Enoxaparin versus other low molecular weight heparin agents | Low | Compared to other low molecular weight heparin agents, patients who had major orthopedic surgery and received enoxaparin did not have a difference in the odds of mortality. Applicability is limited due to the short duration of follow up and because the trials were conducted outside of the United States. Data is highly applicable to the use of tinzaparin in primary total hip replacement surgery. Data is not applicable to primary or revision total knee replacement or hip facture surgery. |
| Intermittent pneumatic compression by Kendall versus the Venaflow intermittent pneumatic compression device | Low | Compared to the intermittent pneumatic compression device by Kendall, patients who had major orthopedic surgery and received intermittent pneumatic compression device by Venaflow did not have a difference in the odds of mortality. Applicability is limited due to the short duration of follow up. Data is highly applicable to primary or revision total knee replacement surgery. Data is not applicable to primary or revision total hip replacement or hip fracture surgery. |
| ActiveCare intermittent pneumatic compression device versus Flowtron intermittent pneumatic compression device | NA | No data |
| Intermittent pneumatic compression versus graduated compression | NA | No data |
| Pharmacologic plus mechanical prophylaxis versus pharmacologic prophylaxis | Low | Compared with pharmacologic prophylaxis alone, patient who had major orthopedic surgery and received pharmacologic plus mechanical prophylaxis do not have a difference in the odds of mortality. Data is highly applicable to patients who had primary total hip replacement surgery and received aspirin plus IPC versus aspirin alone. Data is not applicable to other major orthopedic or revision surgeries. |
| Pharmacologic plus mechanical prophylaxis versus mechanical prophylaxis | NA | No data |
| Effect of prolonging prophylaxis for 28 days compared to prophylaxis for 7 to 10 days | Low | Compared to 7 to 10 days of prophylaxis, patients who had major orthopedic surgery and received 28 days or more of prophylaxis did not have a difference in the odds of mortality. Applicability is limited due to the short duration of follow up and because the trials were conducted outside of the United States. Data is moderately applicable to the use of injectable low molecular weight heparin agents. Data has a low level of applicability to oral vitamin K antagonists and injectable factor Xa inhibitors. Data is highly applicable to primary total hip replacement surgery, moderately applicable to hip fracture surgery and has low applicability to hip fracture surgery. |
| Inferior vena cava filter versus mechanical prophylaxis | NA | No data |

Abbreviations: NA=Not applicable