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Original Research Article

Two-week post-operative dressing: balancing cost and surgical site infection risk in orthopaedic procedures

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ABSTRACT

Background: The study was conducted to determine the safety of having first post-op wound inspection in two weeks following orthopaedic procedures.
Methods: It was a retrospective study involving 277 procedures. It involved clean procedures and selected clean contaminated and contaminated procedures. Patients' records were used to determine the time of first post operative wound inspection. External fixations, sickle cell anemic and diabetic patients were excluded. Wound inspection was categorized before 2 weeks (early) and at or after 2 weeks post-op (delayed). Using southampton wound classification patients were followed for one year to see if there was surgical site infection (SSI).
Results: At two weeks, 84.9% patients had normal wound healing and 7.1% had evidence of SSI. 79.73% (n=59) of patients with early wound inspection had normal wound healing while 20.27% (n=15) had evidence of SSI. 97.1% (n=167) of patients with delayed wound inspection had normal wound healing and 2.9% (n=5) had surgical site infection. P value<0.01. At one year, (p value=0.162), 44.44% (n=123) had normal wound healing, 1.08% (n=3) had SSI, 27.80% (n=77) were lost to follow up, 24.19% (n=67) had no available records of their wound conditions, From the 123 with normal wound healing 21.95% (n=27) had early wound inspection, 73.17% (n=90) had delayed inspection.
Conclusions: Delayed wound inspection is safe and cost-effective and has less SSI compared to wounds opened early.

Keywords: Surgical site infection, Delayed wound inspection, Cost-effective

INTRODUCTION

Following orthopaedic surgeries, attention is usually given to surgical site dressings to ensure any feature of Surgical Site Infection (SSI) or factors that may lead to SSI are detected early and taken care of immediately. Dressings are important component of post-operative wound management. A good dressing should maintain a moist wound environment and thus promote wound healing, be able to remove excessive exudate that might lead to maceration of the wound, provide a good barrier against bacterial or fluid contamination, and be adherent to the skin but atraumatic on removal.[1]

Dressings are changed early or late depending on the wound conditions, patients' factors, surgeon's decisions

and local protocols.[2-5] While early or frequent change of dressings may necessarily be indicated to prevent or treat surgical site infection, unnecessary change of dressings will increase both the infection risk and financial burden on the patient and the system.[4] Also, different types of dressing products are used for their different properties, however, their use are limited not only by the surgeon's choice but by their cost and availability.[3] In this study we find risk of surgical site infection for leaving dressing on for two weeks post op following clean, selected clean contaminated and selected contaminated orthopaedic surgeries.

LITERATURE REVIEW

Determining the appropriate time for post-operative wound dressing change to inspect the surgical site wound can aid in timely diagnosis of wound complications and timely appropriate measures to deal with such complications if present. Studies indicates that the primary reasons for dressing change is to inspect the wound.[6] However, reduced dressing changes adhere to the principle of undisturbed wound healing (UWH), which prevents potential contamination of the incision site.[6] Bains et al reported that post operative spine dressing changes are unnecessary.[4] Several factors can influence the timing of post-operative wound inspection. When deciding on the optimal time for post operative wound inspection, surgeons consider a range of such factors.[7]

Such factors include natures of the surgery, it's complexity and duration, patient characteristics, experience of the surgeon, availability of resources and local protocols and guidelines.[4,8] Ideal timing and frequency of wound inspection can safely be determined by understanding of these factors. While dressing policies tended not to vary according to the type of surgery, regional differences suggest that actual practice may be based on personal experience not available evidence.[9] At present, there is a substantial gap in evidenced-based practice for postoperative wound care after orthopaedic trauma surgery.[10]

Complex procedures may not only stay longer but may also involve more tissue handling and dissection and may involve more blood loss, all of which individually or in combination may lead to increased risk of post operative wound complication and need early dressing change or a greater number of such dressing changes. The duration of a surgical procedure is related to risk of SSI, as surgeries that last more than two hours have increased risk of SSI compared to surgeries that last less than two hours.[11,12]

An experience of surgeon influences the speed and thus duration of a surgical procedure, the degree of tissue handling and the amount of blood loss all of which may indirectly influence the time and the number of post operative dressing change and risk of SSI.[13] New inexperienced surgeons have a higher based line SSI rates compared to their experienced colleagues. This is because of longer operation time.[14]

Extended operation time typically increase the chances of surgical site infection to almost double fold. The likelihood of surgical site infection increases with increasing time for example a 13%,17% and 37% with 15 min, 30 min and 60 min respectively. Generally, across a wide range of procedures, patients who develop surgical site infection had an average operative time that was 30min longer than those without surgical site infection.[15]

The theatre design has an impact on the risk of SSI. This can be improved by acting upon various factors, from the surgical environment itself to procedural aspects and staff behaviour. Moreover, surveillance of SSIs is a well-established, well documented approach to lower the incidence of SSIs. Many hospitals still do not follow this recommendation despite its effectiveness.[16]

In our setting, we used 3 to 5 pieces of multilayered sterile gauzes, with first of them soaked with 10% Betadine. The gauzes are then covered completely with zinc oxide plaster. Each gauze is made of 4 folded layers. Depending on the part of body operated the zinc oxide adhesive plaster is substituted by sterile crape bandage. Drains exist, when used, usually has a different dressing and typically we secure the drain using 2 or 3 staples. It is removed by gently pulling it out without necessarily opening the dressings.

The objective of this study is to see if leaving post operative wound dressing unchanged for two weeks following selected orthopaedic procedures has significant impact on the risk of surgical site infection and cost of the care.

METHODS

Study area and data collection

The study was conducted at Federal Medical Centre Azare (now Federal University of Health Sciences Teaching Hospital Azare, FUHSTHA). The hospital is now one of the largest tertiary centres in the state with a capacity of about 432 bed spaces. At the time of this study, the orthopaedic unit is managed by 2 consultants, and 2 to 4 medical officers.

All the included procedures were performed by either of the two consultants. The wards comprise of 12 bedded male orthopaedic ward, 14 bedded male surgical ward 1, 12 bedded male surgical ward 2, 12 bedded female surgical ward and a14 bedded paediatric surgical ward. Each of these wards is manned by 12 to 14 staff nurses. It is worthy of note that the wards, including the male orthopaedic ward, are shared with general surgery, urology, paediatric, sometimes neurosurgery and occasionally dental and maxillofacial units. Besides main operating theatre, which

has 3 operating rooms, there is an emergency operating theatre at the accident and emergency department.

Like the surgical wards, all the operating rooms are shared with all the other surgical units, including obstetrics and gynaecology cases. However, one operating room is dedicated to only clean cases.

Study design and population

The study design is a cross sectional, quantitative, retrospective survey of records involving the review of secondary data collated from of all clean, clean contaminated and contaminated orthopaedic procedures from 2020 to 2023.

We determined time at which the post op dressings were first opened and if there was surgical site infection within a year of the surgery. Wound were opened post op within the first 3 days, between 4 to 7 days, 8 to 10 days, 11 to 14 days, 15 to 21 days or after 3 weeks. Wounds opened between 0 to 10days are here considered opened before 2 weeks, while wounds opened from 11days post op upward were considered opened at or after 2 weeks.

In this study, clean procedures here include all closed injuries, clean contaminated were here all Gustilo-Anderson type 1, 2 and 3A that presented to us without gross contamination within the 1st 6 hours of injury while contaminated wounds are those type 1, 2 and 3A that presented after the 1st 6 hours of injury, however, deemed safe to undergo internal fixations. Patients aged 10 to 80 years were considered. Patients with comorbid conditions like diabetes mellites and sickle cell anaemia were excluded. Also, grossly contaminated wounds at presentation regardless of Gustilo-Anderson classification and all external fixations were excluded.

One of the two surgeons usually, not always, inspected wounds within 3 to 5 days post op and do routinely gives 2 days IV antibiotics followed by 2 weeks of oral antibiotics. While the second surgeon routinely gave IV antibiotics for 1 to 3 days post op only, and usually the first wound inspection was during staples/ stitches removal in 2 weeks.

Southampton wound classification was used to determine post operative wound condition at 2 weeks, at 6 weeks, at 12 weeks and at one year.

For this study, scores of 6, 7, 8, 9 and 10 were added to represent absent of available records on the wound condition, lost to follow up, reoperated due to infection, reoperated due to other reasons and patient that died respectively.

Methods of data collection

A list of all clean, clean contaminated and contaminated orthopaedic procedures done between January 2020 and December 2023 was retrieved from the operation register in main operating theatre of the hospital.

The patients' hospital numbers were used to retrieve their information from folders, electronic health records or both. Out of 425 procedures from the records only 277 records were successfully retrieved.

Measurement of variables and study outcomes

Time of first post op wound opening and presence or absence of surgical site infection.

In this study, the independent variable is the type or duration of post-operative dressing (two-week post-op dressing). The dependent (the outcome) variable SSI. The main (primary) study outcome is the percentage of patients with normal healing, according to the Southampton wound classification. These were studied at 2 weeks, 6 weeks, 12 weeks and 1 year after the surgeries.

Table 1: Southampton wound grading system.[17]

Grade	Appearance
0- Normal healing	
1- Normal healing with mild bruising or erythema	A- Some bruising
	B- Considerable bruising
	C- Mild erythema
3- Clear or haemoserous discharge	A- At one point
	B- Around sutures
	C- Along wound
4- Pus/ purulent discharge	A- At one point only (<2 cm)
	B- along wound (>2 cm)
5 -Deep or severe wound infection with or without tissue breakdown	

Analysis

The data was analysed using IBM SPSS statistics version 31.0.0.

95% confidence level was used, and Chi-square calculated to determine the statistical significance of the results.

Ethical consideration

The study was approved by the Research and Ethics Committee of Federal University of Health Sciences Teaching Hospital.

RESULTS

Table 3; at 2 weeks post op, 84.9 % (n=235) recorded normal wound healing, wound score of 0 (n=229) and 1 (n=6). 7.1% (n=20) recorded evidence of surgical site infection, wound score of 2 (n=7), 3 (n=9), 4 (n=2) and 5 (n=2) at p value<0.01.

Table 3: 86.64 % (n=240) of the cases were clean, 9.34% (n=26) clean contaminated and 3.97% (n=11) were contaminated case. Out of the 235 patients with normal wound healing 87.77% (n=206), 8.51% (n=20) and 3.83% (n=9) were clean, clean contaminated and contaminated wounds respectively at p value<0.01.

Table 2: Age and sex distribution.

Age (years)	Sex		Total N (%)
	Male N (%)	Female N (%)	
<16	36 (13.0)	25(9.03)	61 (22.02)
16-45	117 (42.24)	12 (4.33)	129 (46.57)
46-65	36 (13.0)	17 (6.14)	53(19.13)
66-75	9 (3.25)	10 (3.61)	19 (6.86)
>75	11(3.97)	4 (1.44)	15 (5.42)
Total	209(75)	68 (25)	277 (100)

Table 3: Wound type and development Of SSI AT 2 weeks post-op.

Wound type	N (%)									Chi-square/ p value
	Normal healing	Normal healing and mild bruising	Erythe ma and other signs of inflamm-ation	Serous discharge	Purulent discharge	Deep infection	Missing records	Lost to follow up	Total	
Clean	204 (73.6)	2 (0.7)	5 (1.8)	4 (1.4)	2(0.7)	1 (0.4)	20 (7.2)	2 (0.7)	240 (86.6)	45.578 /<0.001*
Clean conta-minated	18 (6.5)	2 (0.7)	2 (0.7)	3 (1.1)	0 (0.0)	1 (0.4)	0 (0.0)	0 (0.0)	26 (9.4)	
Conta-minated	7 (2.5)	2 (0.7)	0 (0.0)	2 (0.7)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	11 (4.0)	
Total	229 (82.7)	6 (2.2)	7 (2.5)	9 (3.2)	2 (0.7)	2 (0.7)	20 (7.2)	2 (0.7)	277 (100.0)	

Note: *- Statistically significant.

Table 4: Wound type and development of SSI at 1-year post-op.

Wound type	N (%)						Total	Chi square/ p value
	Normal healing	Deep/severe infection	Missing records	Lost to follow up	Reoperated due to infection	Reoperated for other reasons		
Clean	110 (39.7)	1 (0.4)	61 (22.0)	65 (23.5)	2 (0.7)	1 (0.4)	240 (86.6)	33.103 / <0.001*
Clean contaminated	9 (3.2)	2 (0.7)	5 (1.8)	8 (2.9)	2 (0.7)	0 (0.0)	26 (9.4)	
Contaminated	4 (1.4)	0 (0.0)	1 (0.4)	4 (1.4)	2 (0.7)	0 (0.0)	11 (4.0)	
Total	123 (44.4)	3 (1.1)	67 (24.2)	77 (27.8)	6 (2.2)	1 (0.4)	277 (100.0)	

Note: *- Statistically significant.

Table 5: Wound inspection at 2 weeks post-op.

Time of first wound inspection (days)		Normal wound healing	Normal wound healing + mild bruising	Erythema + other sings of inflamm-ation	Serous/ haemore-sous discharge	Pus/ purul-ent discha-rge	Deep/ severe infect-ion	Miss ing rec-ords	Lost to foll-ow up	Total	Chi-squa re/ p value
≤3	N	40	2	4	5	0	1	0	0	52	175.5 21 / 0. 00*
	%	14.4	0.7	1.4	1.8	0.0	0.4	**0.0**	0.0	18.8	
4-7	N	9	0	1	1	0	0	1	0	12	
	%	3.2	0.0	0.4	0.4	0.0	0.0	0.4	0.0	4.3	
8-10	N	7	1	0	1	1	1	1	1	14	

Continued.

Time of first wound inspection (days)		Normal wound healing	Normal wound healing + mild bruising	Erythema + other sings of inflamm-ation	Serous/ haemore-sous discharge	Pus/ purul-ent discha-rge	Deep/ severe infect-ion	Miss ing rec-ords	Lost to foll-ow up	Total	Chi-squa re/ p value
	%	2.5	0.4	0.0	0.4	0.4	0.4	0.4	0.4	4.7	
11-14	N	132	3	1	1	1	0	2	0	140	
	%	47.7	1.1	0.4	0.4	0.4	0.0	0.7	0.0	50.5	
15-21	N	27	0	1	1	0	0	0	0	29	
	%	9.7	0.0	0.4	0.4	0.0	0.0	0.0	0.0	10.5	
>3 weeks	N	5	0	0	0	0	0	2	0	7	
	%	1.8	0.0	0.0	0.0	0.0	0.0	0.7	0.0	2.5	
Missing records	N	9	0	0	0	0	0	13	1	23	
	%	3.2	0.0	0.0	0.0	0.0	0.0	5.1	0.4	8.7	
Total	N	229	6	7	9	2	2	20	2	277	
	%	82.7	2.2	2.5	3.2	0.7	0.7	7.2	0.7	100	

Note: *- Statistically significant.

Table 6: Wound condition at 12 weeks.

Wound type	N (%)							Chi square/ p value
	Normal healing	**Deep/severe infection**	**Missing records**	**Lost to follow up**	**Reoperated due to infection**	**Reoperated for other reasons**	**Total**	
≤3	35 (12.6)	0 (0.0)	1 (0.4)	0 (0.0)	4 (1.4)	6(2.2)	6(2.2)	40.549 / 0.162*
4-7	5 (1.8)	0 (0.0)	0 (0.0)	0 (0.0)	1 (0.4)	1 (0.4)	5 (1.8)	
8-10	6(2.2)	0 (0.0)	0 (0.0)	0 (0.0)	1 (0.4)	3 (1.1)	3 (1.1)	
11-14	105 (37.9)	0 (0.0)	1 (0.4)	2(0.7)	1 (0.4)	13 (4.7)	16 (5.8)	
15-21	23 (8.3)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	1(0.4)	5 (1.8)	
>3 weeks	5 (1.8)	0 (0.0)	0 (0.0)	0 (0.0)	0 (0.0)	2 (0.7)	0 (0.0)	
Missing records	7 (2.5)	1 (0.4)	0 (0.0)	0 (0.0)	1 (0.4)	14 (5.1)	1 (0.4)	
Total	186 (67.1)	1 (0.4)	2 2 (0.7)	2 (0.7)	8 (2.9)	40 (14.4)	36 (13.0)	

Note: *- Statistically significant.

Table 7: Wound condition at 12 weeks.

Wound type	N (%)							Chi square/ p value
	Normal healing	**Deep/severe infection**	**Missing records**	**Lost to follow up**	**Reoperated due to infection**	**Reoperated for other reasons**	**Total**	
≤3	21 (7.6)	3(1.1)	11 (4.0)	16 (5.8)	1 (0.4)	0 (0.0)	52 (18.8)	40.549 / 0.162*
4-7	2 (0.7)	0 (0.0)	5 (1.8)	4 (1.4)	1 (0.4)	0 (0.0)	12 (4.3)	
8-10	4 (1.4)	0 (0.0)	4 (1.4)	4(1.4)	1 (0.4)	0 (0.0)	13 (4.7)	
11-14	71 (25.6)	0 (0.0)	25 (9.0)	40 (14.4)	3 (1.1)	1 (0.4)	140 (50.5)	
15-21	15 (5.4)	0 (0.0)	7 (2.5)	7 (2.5)	0 (0.0)	0 (0.0)	29 (10.5)	
>3 weeks	4 (1.4)	0 (0.0)	2 (0.7)	1 (0.4)	0 (0.0)	0 (0.0)	7 (2.5)	
Missing records	6 (2.2)	0 (0.0)	13 (4.7)	5 (1.8)	0 (0.0)	0 (0.0)	24 (8.7)	
Total	123 (44.4)	3 (1.1)	67 (24.2)	77 (27.8)	6 (2.2)	1 (0.4)	277 (100.0)	

Note: *- Statistically significant.

Table 4 at one year period, 0.042% (n=1) of the clean wound had SSI and 7.69% (n=2) of the clean contaminated wounds had SSI at p value<0.01.

Table 5 from the 255 patients with available record on wound condition at 2 weeks post-op further 9 patients lacked records about the first time of wound inspection.

74 patients had first wound inspection before 2 weeks and among them 79.73% (n=59) had normal wound healing while 20.27% (n=15) had evidence of surgical site infection having wound score of 2 and above. 172 patients had first wound inspection at 2-week post op or later, among which 97.1% (n=167) had normal wound healing and 2.9% (n=5) had surgical site infection at p value=0.00. From Table 6, at 12 weeks after surgery, 67.51% (n=187) had normal healing, 4.33% (n=12) had SSI, 13.0%(n=36) were lost to follow up, 14.44% (n=40) had no available record of their wound conditions, 0.36% (n=1) passed away and another 0.36% (n=1) had reoperation for other reason than SSI.

Out of the 187 patients with normal healing 71.12% (n=133) had the first wound inspection at or after two weeks post op, 24.60% (n=46) had first wound inspection before to weeks.

And out of the 12 patients with features of SSI 66.67% (n=8) had first wound inspection before 2 weeks post op and the remaining 33.33% (n=4) had their first wound inspection at 2 weeks post-op at p value<0.03.

On Table 7, at the end of one year (p value=0.162), 44.44% (n=123) had normal wound healing, 1.08% (n=3) had SSI, 27.80% (n=77) were lost to follow up, 24.19% (n=67) had no available records of their wound conditions, 2.17% (n=6) were reoperated due to infection and 0.36% (n=1) had reoperation due to another reason other than SSI. Out of the 123 that had normal wound healing 21.95% (n=27) had first wound inspection before 2 weeks post op, 73.17% (n=90) had first wound inspection at or after 2 weeks post op, and 4.48% (n=6) had no records of time of first wound inspection.

All the 3 patients that had SSI had grade 5 SSI and had their first wound inspection within 3 days post op. Half of the 6 patients that had reoperation due to SSI had first wound inspection before 2 weeks post-op, while the other 3 had first wound inspection at 2 weeks.

DISCUSSION

The study shows that not opening post operative wound dressing for two weeks following clean, clean contaminated and contaminated orthopaedic procedures is both safe and cost effective, with reduced number of surgical site infections compared to similar dressings opened before two weeks. Delayed, 2 weeks post op, wound inspection is clearly and statistically better in reduced risk of infection thus cost of wound care.

With infection rate of 2.9% in wounds open at two weeks post op compared to 20.27% in wounds opened before two weeks this finding agrees with Brains et al that says changing wound dressing in the immediate post operative period is unnecessary, where they concluded not only that changing wound dressing in the immediate post operative period is unnecessary, not changing the wound is also cost effective and associated with statistically significant reduction in SSI.[4] However, their study focused on not changing the dressing only in the first 5 days post op, not extended period of 2 weeks like in this study. In a related study, in post op clean general surgery procedures Rajak and Mandal found that daily wound dressing is significantly associated with increases SSI compared to alternate wound dressings.[17]

At two weeks post-op, our overall infection rate is 5% for clean cases, 23.07% for clean contaminated cases and 18.18% for contaminated cases. However, at one period the infection rate was 0.42% for clean cases and 7.69% for contaminated cases. This also almost tally with Rajak and Mandal findings was 10% of SSI in clean and clean contaminated cases, however, there result was in general surgery not orthopaedic and trauma and did not include contaminated cases.[17] Our result is close to Loukou Blaise et al findings with 11% SSI in clean, clean contaminated and contaminated orthopaedic and trauma cases.[18] 5.51% of patients with documented use of drain had SSI at 2 weeks post-op, and 1.57% at one year post op. Among all patients with documented no use of drain, 9.17% and 0.92% had SSI at 2 weeks and 1 year post respectively. Among the infected cases, those whose dressings were opened in 2 weeks or beyond 2 weeks no increased rate of infection seen with the use of the drain. Other studies report increased risk of surgical infection with the use of drain.[19] Typically, we used closed negative pressure suction drains and had different dressings from the main wound. Also, the drains were usually fixed to the skin with 2 or three staples, and were usually removed by gentle pulling without opening wound. Our drains were typically open without opening the op site dressings. This might have contributed to the insignificant difference observed.

When properly chosen leaving post operative wound intact for 2 weeks is safe and cheaper.

It does not only eliminate the cost of unnecessary dressing changes but reduce burden of work to the health care system, especially in resource limited systems like ours where inadequate manpower among different cadre of health care professions is a norm.

The power of the study is small, and the different in number of patients involved in the two groups is big to allow fair comparison of the outcomes. Also, the study is limited by the fact that no randomization was done between the two groups, but mainly the usual practice difference between the two surgeons that managed all the patients in the study. One of the surgeons, routinely open his post operative wounds for the first time at the time of removing stiches or staples in two weeks while the other

usually open much earlier prior to the time of stiches or staples removal. Looking at Table 4, 2 out of 29 (6.90%) and 2 out 11 (18.18%) patients with selected clean contaminated and selected contaminated wound respectively had reoperation due to infections.

Also, a sizable number of the patients were lost to follow up before the study was complete. High powered and randomized prospective studies needed and general measures to reduce surgical site infections should always be observed. This is particularly much more in important in resource limited settings were operating theatres are shared by different surgical specialties and sometime absolute restriction of suites for subspecialty or strictly for only clean cases is difficult.

Also, having different wards strictly only for clean cases is recommended.

CONCLUSION

Based on our findings, leaving post operative wound dressing intact for 2 weeks post op before 1st inspection is safe and reduces the cost of unnecessary earlier wound dressings on both patients and health care system. However, it's recommended that in clean contaminated and contaminated cases, the wounds should be inspected earlier monitoring the closely to detect and treat SSI.

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REFERENCES

1. Yao K, Bae L, Yew WP. Post-operative wound management. Aust Fam Physician. 2013;42(12):867-70.
2. Toon CD, Lusuku C, Ramamoorthy R, Davidson BR, Gurusamy KS. Early versus delayed dressing removal after primary closure of clean and clean-contaminated surgical wounds. Cochrane Database Syst Rev. 2015;(9):CD010259.
3. López-Parra M, Gil-Rey D, López-González E. Open label randomized controlled trial to compare wound dressings for patients undergoing hip and knee arthroplasty: Study protocol for a randomized controlled trial. Trials. 2018;19(1):357.
4. Bains RS, Kardile M, Mitsunaga LK. Postoperative spine dressing changes are unnecessary. Spine Deform. 2017;5(6):396-400.
5. Gromov K, Troelsen A, Raaschou S. Tissue adhesive for wound closure reduces immediate postoperative wound dressing changes after primary TKA: randomized controlled study in simultaneous bilateral TKA. Clin Orthop Relat Res. 2019;477(9):2032-8.
6. Rousseau T, Plomion C, Sandy-Hodgetts K. An advanced transparent hydropolymer wound dressing for undisturbed post-op management of surgical wounds following hip and knee replacement: A prospective observational series. Int Wound J. 2022;19(6):1456-62.
7. Smith JK. Predictors of wound complications after surgery: A comprehensive review. J Wound Care. 2019;28(6):320-33.
8. Brown AR. Factors influencing the timing of postoperative wound inspection: A retrospective study. J Surg Res. 2017;215:188-95.
9. Ambrosio L, Vadalà G, Tavakoli J, Scaramuzzo L, Brodano GB, Lewis SJ, et al. Surgeon preference regarding wound dressing management in lumbar fusion surgery: An AO spine global cross-sectional study. Neurospine. 2024;21(1):204-11.
10. Youssef MK, Stenphen DL, Ramsey L. Wound care practices after orthopaedic trauma surgery are highly variable and not evidence base. Injury. 2022;52(8):2179.
11. Khan MS, Rehman S, Ali MA, Sultan B, Sultan S. Infection in orthopaedic implant surgery, its risk factors and outcome. J Ayub Med Coll Abbottabad. 2008;20(1):23-5.
12. Ridgeway S, Wilson J, Chlart A. Infection of the surgical site after arthroplasty of the hip. J B Joint Surg. 2005;87-B:844-50.
13. Birkmeyer JD, Finks JF, O'Reilly A. Association between surgeon technical skills and patient outcomes. JAMA Surg. 2020;155(10):960-8.
14. Wurtz R, Wittrock B, Lavin MA, Zawacki A. Do new surgeons have higher surgical site infection rates? Infect Control Hosp Epidemiol. 2001;22(6):375-7.
15. Cheng H, Chen BP, Soleas IM. Prolonged operative duration increases risk of surgical site infection: A systemic Review. Surg Infect (Larchmt). 2017;18(6):722-35.
16. Spagnolo AM, Ottria G, Amicizia D, Perdelli F, Cristina ML. Operating theatre quality and prevention of surgical site infections. J Prev Med Hyg. 2013;54(3):131-7.
17. Rajak R, Mandal NS. Evaluation of surgical site infection after elective surgeries at a tertiary Care Hospital. Cureus. 2023;15(12):e50844.
18. Yao LB, Krah KL, Kouassi AAN, M'bra KI, Kouassi KJ, Kodo M. Surgical Site Infections in Trauma and Orthopaedics at Bouaké Teaching Hospital (Côte d'Ivoire). Open J Orthop. 2024;14(9).
19. Lilani SP, Jangale N, Chowdhary A, Daver GB. Surgical site infection in clean and clean-contaminated cases. Indian J Med Microbiol. 2005;23(4):249-52.

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